DE BOW'S REVIEW.

ESTABLISHED IN 1846.

AUGUST, 1868.

ART. I—THE INDIAN COTTON FIELDS.

NEW ORLEANS, June 15, 1868.

WM. M. BURWELL, ESQ., EDITOR OF DE BOW'S REVIEW:

Sir—Since the publication of my paper on "Cotton Culture in India," in the March number of the *Review*, I have received several letters upon the subject, some containing comments, some questions about the country, some asking what the British Government is doing in India towards cotton raising, and one or two wishing to procure copies of the article. Owing to literary tasks which will not be neglected, I am unable to give special replies to each of my correspondents—for to answer each fully would require more time than I can well spare at present—but, instead, propose to embrace my views in a general letter to you, answering, as far as I am able, the queries put to me. As far as that particular number of *De Bow* is concerned, I may refer those who wish it to you, presuming, however, that copies can be procured in any town where there is a news agency.

There may be many planters in the South who have never given the cotton question much thought, and who have reflected little on it except as affecting their own interests, who are not aware that it has become one of the most important questions of the day. I believe that I am fully justified in saying that the interest in the Southern cotton fields is as great in England as it is here. Recent letters inform me that it is with deep regret the cotton dealers and manufacturers of that country see the present condition of the South, from which, hitherto, their chief supplies of cotton have been derived. I hope to show that this feeling is not entirely due to selfish interest. The prospects now before these States are attracting the attention of thinking men on both sides of the Atlantic, and cannot fail, for many reasons, to be of especial interest to the English manufacturer. The descriptions and details furnished

by the press are calculated to awaken their sympathy; while, at the same time, they suggest lessons of great practical value. Accounts from all quarters, whether official, public or private, concur in presenting a very gloomy picture of the cotton regions of the South, once so rich and flourishing; and making all due allowances for exaggeration and personal feeling, there is left no room for doubting that the state of things is truthfully portrayed. It is too well known that the Southern people are all but overwhelmed by poverty and distress—that little short of anarchy and despair prevails from Virginia to Texas. White and black alike are overtaken by this tide of adversity. The planters have scarcely anything beside their lands; labor is uncertain; advances cannot be obtained; the freedmen are discontented, and do not hold to their contracts; and all things combine to show that in another year the lands must be devoted almost exclusively to corn, because it requires about one-fifth of the labor required for cotton. It must be borne in mind that we are now looking at matters from an English manufacturer's point of view.

How far ameliorating influences may be brought into operation, remains to be seen; but at present there is no reason for presuming that these gloomy anticipations may not be realized. But while listening to these powerful appeals for sympathy, the facts are also calculated to make England put forth her utmost energies to develop the cultivation of cotton, to the greatest possible extent, in her own colonies. And while hoping that the American planter may not succumb to these troubles and distractions, which now paralize the industry and cripple the resources of the country, the English cotton spinner cannot be content to go back to that state of dependence, from which, by a painful process, he has been amancipated. He can neglect no means which may establish his freedom. He wants, year by year, to have less reason for anxiety about the uncertain politics of America; less alarm, if his supplies from this country should, from any cause, fluctuate or decline. No one can find fault with this desire. The cotton interest of England demand numerous and permanent and increasingly prolific sources from which the supplies required may be obtained. To have such sources is the natural desire of England. Knowing that this would be, in the highest degree, desirable and conducive to prosperity, and might be, under not impossible conditions, a matter of safety, she has put forth her energies to develop such sources, and has given every reasonable aid to private enterprise in this direction. To have less necessity to look to America for his cotton supply, is obviously a great advantage to the English spinner. It is when he feels safe in this respect only that he will feel safe from panics, which do immense harm in the business world, whenever rumors of deficient crops, of drought or army worm, are flashed across the Atlantic. At the same time, while anxious to be assured of his absolute indepencence in regard to his cotton supplies, the manufacturer acknowledges that the trade which the United States has

so long possessed, and that portion which they may still be expected to possess, is too valuable to be lightly abandoned. For this reason, as well as for feelings of humanity, he sympathizes with the distress of the South, and hopes that the troubles may soon pass away, or be overcome. But should it be otherwise, this but adds another and more powerful inducement to renewed exertion in other cotton countries, and additional motives to further encouragement and assistance. It is obvious that the experience of the past few years has confirmed the wisdom of England, and shown her that it would be, or might be, highly disastrous to suppose that her work is now accomplished, and that, now the war has closed, there is nothing more to be done. We may be sure that she will not desist from effort until secure of all future supplies. She will not lose the benefits of past labors by not carrying them far enough. She will not permit, if energy, skill, perseverance and money can avail anything, the misunderstandings and political complications, which every now and then seem to disturb her friendly relations with the United States, to threaten interests so vast as those connected with the cotton trade. In a word, England will not neglect the continued use of the means which have already been tried and found successful, to encourage and promote the growth of cotton the world over.

And here permit me to notice the false and narrow view of too many with regard to British policy. Because this policy tends to free her from dependence on the American planter, and does thus, in the natural course of events, operate to his disadvantage, it is said that England is not only so selfish that she thinks of her own cotton fields alone, but is hostile to the South. Were this strictly true, even, I do not see how one can blame England for looking to her own interests first. Is it not as true of every country and every people? But though in a measure true, is it strictly so? No sane man would pretend to deny to England the right of freeing herself from dependence upon any country, nor can we question her natural desire to develop the resources of her own East India possessions. Upon examination, we find that England is not alone working to improve her own cotton facilities, but is tending aid and encouragement to cotton countries in all parts of the world. The object is not solely to develop her India cotton fields, but to create a cotton supply in many parts of both hemispheres, so that when, by war or failure of crops, the supply is cut off in one country, there may be other sources to draw from. Hence she is carrying on the great work so auspicuously begun, and now so far advanced in India, Turkey, Egypt, Brazil, West Indies, the colonies wherever cotton can be grown, in the Southern United States, and, in fact, in too many places to be enumerated here. This is due to the obvious dictates of prudence and self-interest, but this fact detracts nothing from the aid given to each country. Can this be made a ground for complaint? Far better for the Southern planter to join heartily in the good work, and to lend his influence, wherever it can be of use, to the task of cheapening the cost of cotton growing

here—to the work of improving the mode of culture so as to compete with other countries.

English gold and English enterprise are now flowing to the cotton fields of the entire world. The staple of San Paulo, in Brazil, erroneously ranked as Rio in the Liverpool reports, is due to this potent influence; and the visit of Mr. Everitt, of London, a few weeks since, gives proof that the cotton fields of the South are not to be neglected. It is true that his avowed object was to promote immigration; but it requires little reflection to show that the only interest Englishmen could have in Southern immigration is that of supplying additional labor for the production of cotton. With a fresh supply of competent laborers, new fields must be opened and a new impetus given to cotton culture. If America does little towards furnishing the requisite supply, then other countries must do more, or suffering and almost inconceivable loss must come upon the manufacturing interests of England.

It would be singular, indeed, if India were not the first cotton country to receive the attention of Englishmen. To it they must look, above any other country, and with increasing assurance, for cotton supplies; but in case of a failure of the East Indian crop, there must be other sources available. The experience of 1862–3, when the mills of Manchester, Bolton and other large manufacturing towns were closed on account of the American war, bringing starvation and distress upon the people and financial disaster upon the country, gave a lesson that will not be soon forgotten on the other side of the Atlantic. We can scarcely imagine the wide-spread ruin caused by the failure of American cotton supplies, not alone among the English, but among the poor lace-makers of France and Belgium, who were dependent upon the English spinner for the thread used in their delicate fabrics. But the success already realized in this effort to promote a general culture of cotton, offers good promise for the future, and England will not abate one jot of her efforts for many years to come; not, at least, until she feels secure of a full supply of cotton, when making allowances for a failure in two or three countries from which cotton is obtained.

I have dwelt upon this subject for a particular reason: I wish to show the people of the South what England is doing, and further, to show that where so much capital and Anglo-Saxon pluck is brought to bear, there can be no failure. It is undoubtedly true that all this, without proper precautions, will materially operate against the planters of the South; they must give up forever all hope of making the large profits of former years; they must work their fields to the very best advantage and on the most economical principles; and, unless some steps are promptly taken, not only by individuals, by companies, by associations, and more particularly by the Government, the culture of cotton in the South, in my opinion, must be abandoned, and the fields devoted to corn and other products. And in this event it would not be very profitable to compete with the rich grain lands of the Northwest.

These are some of the dangers and troubles that arise from the present condition of things. Now, I am asked, what is the remedy? What precautions may be taken to avert or to avoid these disasters? My opinion cannot carry much weight here, and I can hope to do little more than to set other men thinking upon the matter. It is a question that calls for the united wisdom of the South. Most men will say, probably, that the first step must be to enlist the Government in the great work; but I do not think so. The first thing is to establish the proper relations throughout the country between manufacturer and planter; to form a National Cotton Supply Association; to have State and even county associations, and to endeavor, in every possible manner, to bring combined effort to bear upon the question. Secondly, I would solicit the aid of the Government, asking that it may follow the example of the English Government; that it may take an interest in cotton growing, as one of the greatest of national resources; that it may clear away all obstructions; that it may make suitable laws for the regulation of labor, and give material aid, where it may be given, to assist in repairing the losses by war. The planter is not the only sufferer; the manufacturer also begins to share the general distress; and unless something can be done, two of the richest existing interests will cease to become such, and two of the greatest resources of national wealth will be lost forever. The manufacturer clamors for protection; but the best protection he can have is to unite with the planter in protecting their common interests. At present, perhaps, nothing can be expected from the Government: but the associations may be formed as a preliminary step, and there may be something to expect from such men as Senator Sprague, (himself a large cotton spinner and planter, whose speech was favorably mentioned in my former paper,) and Senator Anthony, representing the large manufacturing interests of Rhode Island. If these men, with so much at stake, cannot break away from party prejudice so far as to aid in protecting these vasts interests against the present course of events—or rather in keeping pace with them—then nothing may be hoped for from any official quarter. In the face of present legislation, the South could do little, even if capital were forthcoming; but at least, the planters can get together and discuss the best method of proceeding when the proper time arrives.

Among the first questions to be discussed is that of labor. Clearly, the present system of yearly contracts is all wrong. Wages are entirely too high. No planter in the world could stand under this contract system, even where labor is settled and reliable; but in the present condition of the South, it can scarcely fail to break any planter who attempts to raise cotton under it. There are very few artisans or skilled mechanics in the cities who clear $15 per month above the expenses of his family, who idles and shirks as he pleases, and spends one-fourth of his time at political meetings. Thus we find that there must be a change in the labor system, there must be some kind of Government aid, and there must be combined

effort on the part of the planters and spinners, associations like those in England, freely offering their capital and their energy to the work of developing the cotton resources at the smallest possible cost.

"But," say too many, "it is very easy to say what ought to be done, and to bid us to hope on; we have done that for three years, and can hope no longer." An old friend of mine was accustomed to say that "when things got most infernal bad, they are pretty sure to begin to get right again." Few will deny that this turning point has now arrived. After waiting three years, one can afford to wait a little longer, and there is no telling what the next presidential election may bring. But it is certain that a large number of planters, with utter ruin staring them in the face, have lost all hope here, and now feel that they must abandon cotton planting altogether, or go to some other country. I am asked by several what kind of a country India would be for the American planter, what are the prospects there, and how would an American planter be received? I may answer at once that in no country would he find a warmer welcome—in no country would he be better received. But in saying this, I do not mean to encourage emigration; on the contrary, I think it a bad policy generally, and one should be well advised upon the matter before leaving his own country for any other. He should ask himself, first, if, having lands here, it were not better to wait a little longer; he should reflect upon the social disadvantages of going away from home, from the land of his birth, among strangers whose manners and customs are new to him; and he should be well assured that the country to which he intends to go is a better one for him than the one he will leave. It is not entirely a question of government, or whether the people of that country are happier and more prosperous than those of his own; but it is a question of whether it is a better country for him individually, and whether he has a fair assurance that he will do well enough there to overbalance the social disadvantages and difficulties which he must encounter. Those who have hitherto emigrated to Honduras, Mexico or Brazil have not done well, and a majority of them have returned, with a sad and costly experience, to their old homes. The Brazilian emigrants have, perhaps, done a little better than the others, but they are not fully satisfied with their bargain. Emigration agents are not always men to be relied on. They have axes of their own to grind, land which they wish to sell, and it must be understood that they do not labor for the love of it, but with the hope of large pecuniary reward. The Brazilian colonies were generally made up of poor people, and taken out by an agent who located them upon his own lands. These have not done well. It was found that the agent had taken care to keep the best lands for himself; or, if good lands were sold, the terms were not to the advantage of the emigrant. This is the common story of those who return. The men who had money to leave these inferior lands, and to buy others in more favorable locations, have, doubtless, done well

enough. But still it is a question whether, with the same amount of money, they could not have done as well elsewhere. In Brazil there is the usual social difficulty of customs and language, which must, for some years, stand in the way of any great amount of social happiness.

But if one is determined to emigrate for the purpose of raising cotton, India offers the best inducements for the Southern planter. The climate is very nearly like that of the Gulf States, and if the thermometer sometimes ranges higher, the heat is less severe on account of the constant breeze which sweeps down from the mountains. The Indian and also the Imperial Governments have had a great desire to introduce into India not only American cotton seed, but the American mode of cultivation. Experienced overseers, who have lived on Southern plantations, have commanded good positions, and the Government offers every encouragement to settlers on cotton lands. So far as emigration goes, therefore, there seems to be much to be said in favor of India.

At the request of a Louisiana planter, I wrote to make inquiries about certain points upon which I could give no particular information, and have lately received an answer. I cannot do better than to give this letter here, or such portions of it as relate to the subject in hand:

COTTON SUPPLY ASSOCIATION, MANCHESTER, ENGLAND.

Dear Sir—Your letter of the 17th ultimo was forwarded to me by Sir Stafford Northcote, Secretary of State for India in Council. It has been placed before the Executive Committee of this Association, who are of opinion that American planters, with means, might become successful cotton growers in India. This Association can afford no pecuniary assistance, nor is such probably expected or desired; but we are always ready to supply any information, and to exert any influence we possess to promote an extended and improved growth of cotton in India. Mr. Ashburner, the Collector of Khandeish, who has paid great attention to the cultivation of cotton, and been the means of greatly enriching the ryots by his successful efforts to produce better cotton in his district, being now in this country, I have requested him to give me his opinion upon the subject of your inquiries, and he assures me that American planters will meet with a welcome, and every facility for cotton cultivation in India. They will get land at about three shillings per acre on a thirty years' lease from Government, with an assurance that at the expiration of that period the rent will not be increased on account of any improvements they may have made. The only grounds for an increase of rent, if an increase is made, will be the general improvement of the country owing to Government measures; such, for instance, as a railway, or facilities for irrigation.

Cotton cultivation should be combined with sugar cultivation, which will be found very profitable, even with the inefficient cultivation of the natives. The great difficulty with sugar cultivation is the water supply; but there have been several new irrigation works started in Khandeish lately, which open great facilities for sugar cultivation. Land capable of irrigation by gravitation may be had on the Jamda Canal, in Khandeish, in small quantities, say from 50 to 70 acres, at a rent of about £1 per acre, thirty years' lease—at least such land could have been got last year, but the demand for land is so great that it may have been all taken up. These lands are on the railway, or within two miles of it. To obtain low lands in large quantities, a planter would have to go sixty or seventy miles from the rail. Near Sooltanpore, in Khandeish, I restored an old irrigation work three years ago, and have plenty of land capable of irrigation,

and still larger quantities of cotton land is available. It is the very best land, with deep, black soil.

I would not, however, disguise from the American planter that he will have great difficulties to contend with. * * * * He will find labor abundant, and the laboring classes may be very easily led by kindness and liberal treatment, but very independent; in fact, quite intractable without it. Labor may be set down at one shilling per day. I do not think that a planter who has been used to live as a gentleman, should start with less than £1000 of capital; and he must understand that he will have to rough it to a certain extent. He will be very much without European society, and have to build a home for himself. This will cost him say £500, though a tent good enough for a single man, who can rough it, may be built for £100, or less.

* * * * * * *

I shall be happy to know that this is the information that you require, or to give you any further information in our power.

I remain, sir, yours faithfully,

ISAAC WATTS, *Secretary.*

I have here given the letter which, it appeared to me, set the matter in the fairest light; but I have others from England and from India, which speak in glowing terms of the country and its facilities. This letter shows that lands can be procured upon most reasonable terms, and very candidly states the difficulties to be, in all probability, encountered. That the American planter would receive a warm welcome, and that he would share, in every respect, the fortunes of other planters, there can be no doubt. I have omitted some remarks upon labor, in which the writer shows his political feelings, because they were based upon mistaken ideas. They recalled to mind the picture of the chained negro kneeling before his master, who was supposed to be beating him to death, and told very plainly that the old idea that the Southern planter was cruel to his slaves—the "Uncle Tom" theory—is still entertained by men who have never visited the South.

WILLIAM EVELYN.

ART. II.—THE SOUTHERN PACIFIC RAILROAD.

Recently, several pamphlet reports of the surveys on this route have appeared, the latest being that of Dr. C. C. Parry, Geologist of the Western Section. The document purports to be a preliminary report, issued in advance of a fuller and more elaborate one, not yet published. As the author says, in an introductory letter, it is very much condensed; in fact, so much so, that most of the gist of the matter has been squeezed out in the process of compression. His description of the physical geography of the country, from the "Great Plains," by way of the Rio Grande, to the Tulare Valley of California, is comprised in less than three pages; one of which is preparatory to the description proper.

The region traversed between the Rio Grande and the Colorado is a vast upland, crossed by a succession of mountain ridges and basin-shaped valleys. The mountain chains, with a granite nucleus

and upturned palæozic rocks on their flanks, have a general northwest and southeast trend, and constitute the "frame work" of the country, dividing the broad table lands into a series of plains which often end abruptly in mural faces, bounding fertile valleys, or presenting isolated buttes or castellated rocks. This feature is not, however, peculiar to New Mexico; it exists in various places in Nevada, Idaho and Southeastern Oregon. The Canyon of Crooked Creek, a branch of the Owyhee River, is bordered for miles by walls, requiring no stretch of the imagination to transform them into ruins with arches, doorways, windows, towers, turrets and battlements.

In the eastern section of this portion of the route is the country of the Pueblo Indians, distinguished for its fertility and its excellent climate; going west, towards the Colorado, the surface falls, and, at the same time, becomes more barren, and the vegetation more tropical. Crossing the Colorado into Southeastern California, the features are again changed. Desert plains of sand or gravel, dry water courses, water scarce and rarely flowing on the surface, alkaline and salt "sinks," or dry lakes, and isolated mountains or ridges characterize this region.

His description of "the western slope of the Sierra Nevada and the Tulare Valley" is a model of brevity, and still contains matter to surprise a Californian. He says it includes "the rich mining and timbered district of the Sierra Nevada, the *charming pastoral region* of the Tulare Valley," etc. The mining districts proper of the Sierra Nevada are hundreds of miles north of the proposed route; a few isolated "districts" or mining camps, are scattered through the Southern Sierra, but their importance is yet to be demonstrated. The timber consists of oak and pine, and is sufficiently abundant; but the adjectives applied to the Tulare are certainly rather strong, even when we consider that the writer had been a long time on the Colorado desert, and was prepared to admire anything green.

In speaking of the future supply of water in the regions near the Colorado, the author advances the theory that all of the valleys are underlaid by an aqueous sub-stratum that could be easily reached. This is not impossible, but in many cases is very improbable. That track of country differs but very little from the adjoining portion of Southern Nevada, in its physical features. Very little rain falls, the water sheds are almost invariably of small area, and the deposit of sand and gravel that fill the valleys are of great thickness. In similar places in Nevada, wells have been dug along stage routes, to furnish water for the horses; and they are not unfrequently 90 to 100 feet deep; the supply of water is very small, and many of them are as dry at the bottom, as is the surface of the surrounding soil. It is only in the "clay lakes" and sinks that water accumulates to any great extent, and it is to these, and to the dry beds of rivers like the Mohave, that the Railroad Company must look for its supply of water.

In conclusion, after carefully reading the pamphlet, it appears to

us that the author has injudiciously blundered into an unfortunate and palpable error. The route is a good one; it passes through a region as yet unknown, except to the explorer and frontiersman, but of which we have learned enough to believe that it has immense resources, that will be developed as soon as the road is built and the Apaches exterminated; its climatic advantages over the central route are undisputed; travel can never be impeded by snows, and at least a portion of the country that will be opened by it will one day support a large population. Not content with stating this, he has dwelt on the good features of the case so strongly, and so completely ignored the drawbacks to be encountered in the broad desert of the Colorado, that, to one accustomed to such documents, the whole pamphlet seems an obvious "puff." This should not be; such a report should be a statement of all the facts of the case, bad as well as good, together with such opinions as the writer feels warranted in expressing.—[*Journal of Mining.*

ART. III—THE ISTHMUS RAILWAY ROUTES.

The Panama Railroad is now the only highway between the two oceans; and the business it controls is virtually a monopoly. The traffic between the Atlantic States and California is trifling, compared with the great Spanish-American commerce with Europe, which passes over this road. The charge for passengers from Aspinwall to Panama, 47 miles, is twenty-five dollars in gold! No wonder the Panama Railroad is one of the most profitable in the world, and no wonder the company was willing to pay a good bonus for the renewal of its charter. For, since all the short, easy routes across the isthmus are in the territory of New Granada, the exclusive privilege of transit, conferred by the government of that State, is almost conclusive protection against competition. We say almost—for there are routes across the isthmus which British capital, foiled in its last attempt to obtain control of the Panama line, may seize upon and improve. Outside of the territory of New Granada, we have the line across the Isthmus of Tehuantepec, the Nicaragua transit route (now in the hands of Americans), and, last but not least, the route adopted in 1858 by the British Honduras Inter-Oceanic Railway Company, extending from the Bay of Honduras on the Atlantic side, to the Bay of Fonseca, on the Pacific.

For some reason or other, this Honduras Railway was not built ten years ago; but the scheme is now revived, and actively in progress; and in the approaching contest for commercial supremacy in the East, we may perhaps see it play an important part. It is worth while to consider the respective advantages of the different routes. Of the much-agitated ship canal question, we can say little here. The Isthmus of Darien is the quarter where we must look for the canal route; and probably it will be found somewhere near the line

from the Gulf of San Miguel to Caledonia Bay. The brief but exceeding clear and comprehensive report of Admiral Davis, in response to the Senate resolutions of March, 1866, seems to indicate as much, while it looks very plain that we have not yet the necessary knowledge of the interior to locate most advantageously a ship canal. In regard to railways, the case is somewhat different. There may be a great many railways hereafter, intersecting and traversing the isthmus; there will probably never be more than one canal. Different railway routes may possess relative advantages and disadvantages; the canal route must be absolutely the best that nature offers us. Now the Honduras route has this great drawback, as compared with the Panama, that it is nearly five times as long, the located line being 231 miles. Moreover, while the average grade is by no means extreme, there is one section where it is 84 feet, and another where it reaches 95 feet, while the heaviest grade on the Panama road is 60 feet. None of these figures can be called formidable. On the other hand, the Panama railroad has a most indifferent harbor in Navy Bay, at Aspinwall; and the roadstead at Panama, though capacious and safe enough, is subject to very great tides, and so inconvenient, unless provided with docks. Still more serious is the prevalence, at certain seasons, of dead calms, which make it impossible for sailing vessels to change their anchorage, or put to sea, without the assistance of tugs.

The Honduras route begins and ends with excellent harbors (Port Cortes and La Union), located in latitudes more remote from the equatorial calms. Moreover, it passes through regions of great fertility, variety of climate and productions, and remarkable salubrity. The mineral resources of the country are considerable, and there are many towns and a considerable population along the road. The Panama route, on the other hand, runs through a miasmatic wilderness, without any actual or prospective industrial development, and destined never to afford, in the shape of way traffic, any income to the company. All these circumstances increased the original cost of the road to such an extent that its British rival, though so much more extensive, might be constructed with proportionally less expense, and the difference in running expenses and repairs might be made up by a large and increasing way-traffic. But after all, Panama is becoming established as a great emporium of trade. Lines of steamers running up and down the coast, carry the products of England, France and the United States. This commercial habit will be hard to change; and so, on the whole, we need not fear the competition of the British by any other route.—*Am. Journal of Mining*

ART. IV.—LIFE INSURANCE STATISTICS.

REPORT OF THE STATE SUPERINTENDENT.

The life insurance section of the tenth annual report of Mr. Wm. Barnes, Superintendent of the Insurance Department of this State, has just been issued. This report reviews the business, progress

and financial standing of all the companies incorporated in this State, or transacting business here for other states in the year 1867, and is a public document of importance to the community in general. As a specific branch of economic finance, the department of life insurance has grown into a large power within the past twenty years in this State, also in New England, and measurably in Pennsylvania and the Western States.

It is a business with which every citizen who has the wisdom to realize any available surplus income from his earnings or his property, ought to be fully acquainted. The scheme of life insurance is intended to embrace the interests of the whole community—it is, properly considered, the great co-operative financial force of the people—associated for mutual advantage and protection; mobilizing the surplus earnings of all degrees in the true spirit of fraternity and equality, democratising the potent force of capital in the service of the highest interests of human society. Very fairly may it be said that the civilization of a people can be estimated by the relative progress of life insurance amongst them.

Its first impulse, pure and simple, is to protect the widow and the orphan—to extend the affectionate care of the husband and father beyond their own lives to the objects of their affections. The system has been found capable of other applications. It secures endowments and annuities for the living, protects creditors and promotes benevolence generally.

From Mr. Barnes's report we learn that the financial force of this great interest in this State, represented by thirty companies, amounts in their "gross assets" to the sum of $65,522,978 64; that they have in force 206,966 policies, insuring the immense aggregate of $612,721,431 03; their premium income in 1867 amounted to $26,634,061 09, and the death claims paid on policies same year, $4,229,941 49.

During 1867 there were fifteen companies from other States represented by agents in this State, and we may summarize their force thus:

1. Gross assets of fifteen other State companies	$60,025,972 76
2. Amount insured by 194,174 policies	549,008,345 24
3. Premium income	23,749,269 21
4. Death claims paid	4,011,640 98

Mr. Barnes observes, upon these figures, "that the amount insured, which five years ago was less than two hundred millions, has already reached the numeration column of our national debt, and exceeds a billion of dollars, with gross assets in hand exceeding one hundred and twenty-five millions. And still the work goes on with unflagging step and increased activity.

It is manifest that this great interest needs watchful state supervision, and it is satisfactory to find that Mr. Barnes, who has held the office of Insurance Superintendent since the creation of the department in 1851, is fully equal to the responsibilities of his important position.

Since the creation of the Insurance Department in this State, the credit of our New York companies, in every branch of insurance, has been raised to a high standard, and their value appreciated all over the country. It has not been possible, under the insurance code as vigilantly administered by Mr. Barnes, to carry on an insolvent insurance company in this State, nor to permit one to be introduced here from any other State. One marked effect of this rigid surveillance in New York is that the solvent companies of other States have eagerly sought admission under the department here in order that they might obtain its certificate of their soundness to accredit them elsewhere.

So sensible were the managers of our State companies of the value of Mr. Barnes's administration of his high trust, that they united last session in a memorial to Governor Fenton to renominate Mr. Barnes as Superintendent. They took similar action during Governor Seymour's term, which had the effect, at least, of deterring him from making any nomination from the ranks of his own political party. This particular office is in no sense a political one, and it has been fortunate for the insurance interests of our State that it has been administered thus far free from all political interference.

In the present report Mr. Barnes suggests many improvements in the practice of life insurance, and dissects with great minuteness the condition and affairs of each particular office under his supervision. He points out conclusively how the stockholders of certain offices derive too large a share of the profits of the business in return for the capital they subscribed, and which also draws its own annual interest, but does not appear to be any longer at all requisite for the security of the policy holders.

In order to show the relative merits of the several companies in this regard, Mr. Barnes gives a succinct summary of the charter and by-law arrangements of all, and minute calculations of the interests and profits paid to stockholders. Also, with the view of urging the discontinuance of the premium note system, Mr. Barnes presents a very exhaustive analysis of the asset accumulations of the several companies showing precisely what percentage of the whole is realized and unrealized, and observes:

"It will doubtless astonish many officers themselves to see the small percentage of their accumulations which are now actually convertible into money or the legal-tender currency of the United States."

Further he urges that "strenuous efforts should be made to call in and realize all outstanding, uncollected assets, and to place the same in the company's own safe and custody, invested in sound securities, held in the corporate name. Premium notes and credits should gradually be diminished and policy-holders' burdens lightened by annual dividends, payable with the second annual premium."

Upon the table given, showing the realized and unrealized assets, it appears that the latter consist of "premium notes and loans,

deferred premiums, unpaid premiums, commuted commissions and personal securities and accrued interest." We understand that it is contended that, as against the ultimate liabilities assumed by the companies, these outstanding assets are mainly available. Yet, it seems rather a fictitious proceeding to issue contracts based upon the assumed consideration of premium that is never paid nor expected to be paid, but to be held, except so far as extinguished by the application of dividends, as a set-off against the body of the contract itself. It may be assumed, however, that with the younger companies, at least, the premium cannot be collected as promptly as with the older and wealthier offices. It has grown to be a custom, and found to be to some extent a convenience in many of the offices based on the premium credit system, to accommodate the customers by taking payment of the cash portion of the premium in notes at short dates, payable with interest; and it is urged that this course facilitates business, and induces a large amount of insurance that would not otherwise be effected. But Mr. Barnes inclines to the actual cash basis of the business, and desires to see as far as practicable the assets represented capable of conversion "into money or the legal-tender currency of the United States."

The table exhibiting this illustration shows for our New York State companies a "percentage of unrealized total assets," varying from 83.65 per cent. as the highest, down to 6.80 per cent. as the lowest. Of the established companies, the Mutual Life, of New York, and the Equitable, show by far the largest proportions of assets realized.

The "all cash" companies have necessarily the advantage in this comparison.

Tracing the several companies of this state in the order of their incorporation, and specifying the features of their "chartered privileges" and "by-law" provisions, Mr. Barnes remarks of the foremost and largest company of the country, the Mutual Life, of New York, that "this company, whose organization, like that of the Equitable in England, marks the substantial establishment of modern life insurance in this country, was incorporated in 1842, by a special act of the Legislature, before the adoption of the constitution of 1846, which prescribed general acts of incorporation.

Having compared the initiative action of the "Mutual Life" in this country to that of the "Equitable" in England, Mr. Barnes, referring in regular order to the "Equitable Life Assurance Society of the United States," says that

"This corporation can be said to mark and distinguish the commencement of the recent astounding progress in the business of life insurance. At the time of its organization in 1859 only six life insurance companies existed in this State, or, calling the New York Life and Trust a nominal life insurance company, the number was five, viz: The (1) Mutual, (2) New York, (3) United States, (4) Manhattan, (5) Knickerbocker. Only the Mutual and the Manhattan were issuing new policies exceeding in number one thousand

per annum. The act organizing the Insurance Department had been passed at the preceding session of the legislature, but did not go into effect until the succeeding January. Six years had elapsed since the passage of the act entitled 'An act to provide for the incorporation of life and health insurance companies, and in relation to agencies of such companies,' passed June 24, 1853, and not one life or health insurance company had been incorporated under its very liberal and accommodating provisions.

"The Equitable was the first company organized under this act, and already over a score of others have followed its example.

"The capital stock of this company was fixed at one hundred thousand dollars, upon which the stockholders receive only legal interest of seven per cent., payable semi-annually."

It is within our knowledge to state that not alone does the "Equitable mark and distinguish as an epoch the modern advance of life insurance in the United States, but that the vigorous action of the office impelled that advance, propelling forward the companies that preceded it, and drawing up after it the companies that followed its organization. The momentum of its individual force is felt to the present day, and the pressure is still maintained. Witness that, whereas at its organization the two most advanced offices only were issuing over one thousand policies a year, the Equitable alone in 1867 issued 10,527—insuring the full sum of $45,453,240. The accumulated assets of the Equitable, now amounting to $7,000,000, is individually equal to the actual assets of the five companies which preceded it at the time of its organization, (1859,) and the actual income of the Equitable now exceeds that of the whole five at that period. This is strong evidence, vigorous growth and good example.

Referring to the scheme so earnestly urged recently by Elizur Wright, of Massachusetts, and a few other kindred spirits, for the creation of a national bureau of insurance at Washington, Mr. Barnes very aptly says:

"An abortive attempt in the pretended interests of policy-holders has been recently made at Washington by a small minority of the life insurance companies of the Union, to wrest from the several States their legitimate and constitutional functions of supervision and control over the subject of life insurance, and under the mantle of the Federal Government and the machinery of an association of companies, to aggregate to themselves all supervisory powers and jurisdiction, with the right to issue certificates of authority for every State of the Union except that in which a company is incorporated. Undoubtedly all companies, by their boards of directors, actuaries, auditors, stockholders and policy-holders, should annually, at least, examine, audit and regulate their condition and affairs in the best possible manner; and if all, or a portion of the companies, chose to associate themselves together for this purpose, the public will not object to any such vouching by all for each individnal company; but any system of self-supervision by the corporations them-

selves, or by their own officers, actuaries or appointees, however artfully disguised, will not be accepted by the public as a substitute for an independent Government supervision made in the interest of the State and of the whole commonwealth.

"This crude and illy-digested scheme very properly received its quietus in the Judiciary Committee of the House of Representatives by an unanimous vote, and was not even dignified by a report for the consideration of Congress."

We commend the study of this interesting, elaborate and important report to every intelligent citizen who either has his life insured or feels that he ought to insure it, in order that he may clearly understand all the bearings of this great interest.—[*N. Y. Eve. Post.*

ART. V.—EXODUS.

ACCUMULATION OF CAPITAL.

We have often regretted to hear the desire of accumulation censured. Mankind, having agreed to renounce the acquisition of their wishes by force, have agreed that a certain representative shall be required as of nominal and equivalent value. Just as the man in power, in other days, sent his signet ring, or even his staff, as the sole symbol of his authority and the only exponent of his wishes, so the ounce of gold or silver receives an indiscriminate acknowledgement, and every individual is willing to deliver any vendible upon the tender of an agreed price in these evidences of a common equivalent. To acquire, therefore, the property of others, we must as honest men, deliver them this common measure of value. In this point of view, the accumulation of at least as much currency or capital as is adequate to acquire the demands of our personal and social necessities becomes a duty. To forbear the performance of this duty becomes a moral wrong, since it implies that we prefer to burden others with the care of ourselves and of those properly dependent on us. We have no patience, then, with those who affect to scorn the means and objects of honest industry; still less for those who teach that the love of money, as they are pleased to term the desire of honest gain, is a sordid surrender of the purer impulses of our spiritual nature to the vile greed of heaping together gain for no other object beyond it. Misers are very uncommon, and in many cases they are found to have accumulated money for the fear of personal want, thus acknowledging the honest principle of equivalents—since otherwise they had been thieves or robbers. Most men who manifest most enterprise in accumulation, are of proverbial liberality in their expenditures on account of their families, and of established punctuality in complying with all obligations upon them. That despicable character which Dickens has drawn, who pretended to see "all mankind for his use," who levied

an impudent and ungrateful subsistence upon the bounty of others, was a type of those who sneer at industry, enterprise and economy. We are gratified to know that the Skimpole school is very feeble in the South. It has been replaced by earnest, energetic, uncomplaining men, who are at work to acquire the means of independent subsistence without "taking the road," or living as loafers upon the remnant that has been spared in the land. Such is the sentiment of the whole South; hence there is so little idleness, intemperance or discontent. The soldiers of the war have gone to work. Probably God, in preparing them for an Exodus out of the "land of bondage" in which they have been left by the impolicy of those who had thought for them, has subjected these young men to the trials and privations of war. Hence they are all, without any feeling of degradation, engaged in any pursuit which will produce an honest maintainance. We have often thought of two pictures as worthy of being painted, engraved and disseminated at public cost. One, that of a most eminent and gallant young Confederate General who went home under parole from Appomattox Court House, put his war charger in the plough, and laid by the little corn crop for the support of his mother and sister. Thousands of Southern cavalrymen did the same. Next to the picture of this ploughman, wearing the military insignia of his high rank, should be that of another Confederate officer chipping the brick of ruined Richmond, at fifty cents a day. These men fought bravely, surrendered in good faith, and are now working to reinstate their liberties.

There are, however, especial reasons why the Southern people and legislatures should invoke capital and encourage accumulation. There has never, in modern times, been any conquest which has, like that of the Southern States, destroyed the total capital investment of more than a century. Yet such has been the fact with regard to the Southern people. Of course, the capital invested in the labor capacity of the freedmen has not altogether perished. The freedman is now the capitalist to the extent of his own value. Society can tax that value in his person, or participate in its productions as heretofore, but the former proprietor, who had invested his earnings in the laborer, has lost that investment. Emancipation was a confiscation of capital to the use of the freedman. It was not an annihilation of capital, except to such extent as the freedman was found less productive than the slave. But with this confiscation and consequent bankruptcy of the slave-owners, they are left with all the habits and aspirations of a high and intelligent civilization without the means of giving the lawful equivalent which civilization has prescribed for the property they may desire to acquire or the tastes they may wish to gratify. The standard of virtue and of refinement is very high among the Southern people. It is very desirable that it should be maintained, but it is a very great problem how it can be. The standard of manhood and womanhood can only be preserved in its general acceptation by an accumulation of capital and the application of its dividends to that purpose. The education,

dress, associations and employments of an intelligent and refined population require money, and a good deal of it. The virtues of an ancestry wear out like the effect of vaccination. After one or more generations the loftiest recollections cease to counteract the *res angustæ domi*. The very obligation to maintain a station with inadequate means, impresses pain and often deceit upon the aspirant. There is no more painful example of shame in a generous mind, and a duplicity almost veneal in a menial, than the poverty of Ravenswood castle concealed by the faithful falsehoods of Caleb Balderstone. Indeed the more eminent the ancestry and early status, the more miserable the lot of the pauper descendant. The more prone this pauper is to shrink from a society he cannot equal and to descend to one in which the shadow of a great name is an equivalent for the consideration and aid extended him by his neighbors. The tendency of even a just pride of ancestry or education is, when stripped of fortune, to seek obscurity in subordinate avocations. Dickens has again depicted the broken-down gentleman, imprisoned and yet seeking some alleviation of his misery in presiding over the social meetings of those who could not, at one time, have entered his gates. Our own social history North and South and that of Europe, presents too many examples in which the descendants of eminent persons have come to worse than poverty. In England Plantagenets are water-carriers, and the remote posterity of the "aspiring blood" of York and Lancaster have "mounted" to the driver's seat of a hackney coach.

We attach great importance, then, to the accumulation of capital as the means of protecting our population from a decline which has befallen those who were sustained by the adventitious circumstances of a patented nobility. We acknowledge no other elements of social supremacy than virtue and intelligence, and while the one is innate and the other is often acquired under the most adverse circumstances, it is the duty of statesmen and moralists to take care that virtue be not subjected to undue trials, nor intelligence left to struggle unaided with adversity.

HOW TO ACCUMULATE CAPITAL.

1. Capital may be attracted to a country by the inducements offered in the safety of investment, or the rate of its profits. It may be remembered that the common phrases "want of capital" is founded in error. Capital, like the atmosphere, will fill any vacuum. It courts risks, for it delights in speculative returns. The African slave trade has conquered the scruples and commanded the capital of Old and New England. Piracy, smuggling, blockade running, usury, and all the most perilous pursuits will command the means of successful operation. It is therefore idle to speak of a want of capital; the proper expression should be a want of inducement for capital. In the same connection we may notice the usual observations that the political anarchy of the Southern States has excluded capital. We do not think so. Capital was attracted South at the close of the war because cotton bore an enormous price, land and

labor were comparatively cheap, and many persons thought it was as easy to make cotton on the ground as on paper. Experience has convinced most of those who made the adventure of planting, merchandise or banking that they were mistaken. They have withdrawn or sunk their capital, and few are so rash as to repeat the trial. In the meantime, however, Northern capital has been freely invested in other subjects of enterprise. A great deal has been brought to buy cotton, or to purchase real estate or securities, public or private. The great grain trade has been diverted from its outlet by the lakes to the Balize. The cattle trade between Texas and Chicago has occasioned a large investment of Western capital. All this has been in the midst of our political troubles. Some men indeed, prefer to invest at such a period, because they foresee an inevitable advance in the value of that in which they deal.

The attractions of inducement depends, then, on our offering such safe and profitable modes of investment as will induce the capitalist to untie his purse. The publication of our physical advantages will do much to effect this object. The press should not adopt a lugubrious tone, but should put the fairest face it truthfully can on the future of every interest. Our agricultural prospects are very good. Cotton is rapidly coming down to a standard cost, labor and provisions accompany it. Labor is regulating itself, calculations are now more rational, and the risk of loss less than heretofore. The commercial advantages of the South are more obvious as it has become more necessary to employ them. The introduction of the barge lines, the erection of grain elevators, the immigration of Western men, have turned the attention of the upper valley to the importance of removing all obstacles to our trade with the tropical regions beyond us. Very soon capital, whether invested in provisions, groceries or shipping, will find a safe investment and a satisfactory return. The great inboard route by way of the Mississippi River and the Illinois and other parallel railroads will be opened. It will be the competitor of the coast route. It will concentrate, carry and distribute the trade of the East and of the West Indies so far as that trade shall be destined for the upper valley. This will render valuable the lines of internal commerce. Southern railroads will be completed by Northern capital. Domestic and foreign transportations will be furnished by the shipping and railroad interest.

The establishment of a manufacturing interest will be another means of accumulating capital. It is to be observed that the chief reason why manufacturers have never thriven in the South was the absence of domestic demand. The class which consumed commodities paying a profit to the manufacturer were highly civilized people, who imported the most perfect fabrics from abroad. The domestic demand for these fabrics was not sufficient to justify their production at home. The most numerous class of consumers were slaves, clad and provided for by their owners. They were well clad, fed and furnished, but the material employed was cheap and

afforded little encouragement to the producer. As an illustration, we may state that while the planter required a costly carriage, expensive and fashionable costume, furniture and ornaments, his slaves were comfortably clad in kerseys or cottonades, brogans, wool hats, and coarse blankets. Their food was substantial and abundant, but it was in great part produced at home, and when purchased never included expensive articles.

While the expenditure of a planter might have thus averaged three thousand dollars in merchandise, the cost of supplying his slaves with articles of necessity would not exceed an average of sixteen or seventeen dollars each. The amount of cotton money thus applied to the encouragement of manufactures may be very well inferred from this probable ratio of expenditure. The act of emancipation in effect made the slave his own capitalist to the extent of his value as a producer. It also charged him with the cost of his own maintenance. He has now to pay for his own rents, fuel, food and clothing, his legal, medical, political and religious expenses. A very large proportion, then, of the money which he obtains for his labor, finds its way directly and indirectly into the hands of the merchant. It is not improbable that when the annual labor of the former slave amounts to five hundred dollars, that three hundred of the sum is expended by himself or by those to whom he has paid his labor money, in manufactured commodities. We may make the estimate more general, and say that if the value of our cotton crop reaches two hundred millions of dollars, one hundred and fifty millions is laid out in the purchase of manufactured and imported commodities, more or less perishable and annually to be renewed. This extraordinary change in the value of our importations is shown not only by the custom-house returns, but by the incredible number of country stores which are established upon the cotton farms, and supported by a direct exchange of manufactured goods for the proceeds of cotton labor.

If this extraordinary change be admitted, does it not furnish a home market which was never before enjoyed? Is there not now reason, which never before existed, why our Legislatures should encourage the workshop? If these reasons afford inducement for the statesman to patronize this great interest, let us add another. It is an appeal to the patriot. Our people are impoverished. They are without profitable employment. We have the usual proportion of non-producers. How shall they be maintained? They are in part the widows and children of our brave soldiers. How can we so well discharge ourselves of the debt due the gallant dead as by giving honest employment to those they have bequeathed us?

We may, in the same connection, speak of the prospect of spinning our own cotton. This simple operation, performed chiefly by machinery which may be imported here as well as elsewhere, will add three-fold to the value of our raw material. Thus, the unemployed labor, abundant provisions and raw material possessed by the South, if combined in a manufactured fabric, will relieve us

from the support of many non-producers, and authorize us to draw for three dollars where we now draw for one. Is not this proposition worthy a committee and a report in every Legislature of the South? This then, explains another source of accumulated capital; it is this:

2. Capital may be accumulated in a country by producing at home more or less of the manufactured fabrics consumed by the population.

This is but a measure of general economy which produces exactly the same results with a nation that the same principle will in the affairs of an individual. It is what a man keeps that enriches him—that which he spends makes the riches of others. If the South could manufacture in whole or in part the one hundred and fifty millions worth of commodities which we now purchase abroad, of coarse the amount of domestic production would go to accumulation. If the laboring freedman purchases a pair of military boots, made by a fellow-citizen of home-tanned leather, the taxable value of those boots would go to accumulation in the hands of him who produced them. It would remain to strengthen and defend the country, instead of going abroad to add to the resources of other sections.

What could so well illustrate the difference in the systems of the North and South as the war of abolition and its results? The South had for more than a century exported in large part the value of its staple products. It had invested them in perishable commodities. Its net profits the South invested in slave titles. The imported value was added to the accumulation of Northern and European commodities. Suppose our importation of Northern commodities and European merchandise imported through the North had averaged but twenty-five millions for the past century; it would represent twenty-five hundred millions of dollars, being just about the value of our accumulation in slave property, and just about the cash cost of the war. Which annihilated our title and our accumulations? Did our readers ever reflect that the slaves won their freedom by the products of their own labor? Did it ever occur to them that the Northern accumulation of Southern capital was a great savings bank in which half of every cent earned by the slave for a century had been deposited to his credit, and was checked out by John Brown and Mr. Lincoln to liberate him? Such is the force of accumulation. Such was the error of a system of exclusive industry, which thus furnished the means of its own annihilation, and left the country at one blow destitute of all that it had labored a century to acquire.

We have thus explained how this evil of foreign dependence can be corrected. It can readily be done by employing the population of the South and utilizing its resources. Without this policy, the drain of Southern earnings will be more rapid and their accumulation by other communities greater than ever before, because, as we have shown, the expenditure and exportation of our earnings will be much greater than they were under the slave system.

ART. VI—THE JEWS—A CURSORY GLANCE AT THEIR PAST AND PRESENT STATUS.

It is claimed to be a remarkable coincidence that the conservative elements of two distinct nationalities, each of immense power, resources, influence and extent, should be represented by descendants of the Hebrew race, and that but for the accidents and chances of war, a third would probably have perfected the complement. In demonstration of this proposition we have, as citations, the premiership of England in the hands of Mr. Disraeli, and the acknowledged political influence of Mr. Belmont; and had not the star of the Southern Confederacy set in disaster and gloom, Mr. Benjamin might have worn the same high official mantle assumed during the continuance of the war. To the progressive spirit, or rather liberal enlightenment of the age in which we live, are ascribed these wonderful changes in the social condition, political status and public patronage of the Jews; and journalism, eager to convert into available funds whatever capital may be offered for ready investment, by each new phase of affairs or development of events, is jubilant over the radical revolution in religious sentiment, and exultant at the conquest of free thought and independent action over sectarianism and bigotry. The idea is a fallacious one. The result springs directly from the operation of distinct and different causes. Divest the Jews of their distinguishing characteristics, as a race, and no such reformation would have been wrought. If partisanship in politics, stimulated and sharpened by deep-seated antagonism, and fostered by a hatred made more inveterate by precedent and example, merges so often into fanaticism; prejudices in religion, constitutionally imbibed and embittered by sacred teachings and traditions, are just as apt to glide insensibly and instinctively into a passionate phrensy, bent on punishment where it fails to crush, and persecution where it cannot exterminate. History, it is true, illustrates the rise of many a class, in the face of religious opposition; the removal of disabilities, and the abandonment of proscriptions against a strong current of popular feeling and opinion, adverse to the supremacy of the peculiar claimants, but in no case has there been an absence of justification, urgent, appealing and indisputable, on the part of the class aspiring to national protection and immunities. if not to honors and emoluments. The inhibitions, that so long blurred the enactments of the British statutes, were not overcome by the simple advancement of civilization, and the gradual enlargement of narrow views.

Lord Macaulay, who was not only a brilliant essayist and a clever logician, but a faithful historian, and although running only a brief career in the arena of politics, gifted with the clear vision and active faculties of a statesman, demanded a change in parliamentary tactics, by which an effective wing of the grand forces of the king-

dom, clogged by unjust and improper restraints, might be wheeled into line, and the influence of their power and wisdom felt in the councils of the country. Was his eloquent advocacy of the rights of the Jews to public position, based upon the grounds of the mere suggestions of the spirit of the age, its philanthrophy, its charity, its increased sense of generosity, its more condescending toleration? or was it not the imperative necessity of affairs, the actual condition of things, absolutely requiring the exercise of diplomatic tact and skill, and through which it was hoped to profit by the display of financial shrewdness, energy and adventurous enterprise? The bold speculation of the Jew was of incalculable advantage to that system of economy and retrenchment that timidly shrinks from promising undertakings; and should the character of any transaction seem too daring, or involve too many and too multiform risks, there was the sober judgment of the less expert and experienced players, men of other creeds and other persuasions, to lessen the opposing odds.

In England the Jew has clambered to official station by dint of successive and continuous effort, and by the direct operation and agency of intrinsic merit and inherent worth. Had he depended on wealth alone, he would have been, like Cassim Baba, unmindful of the talisman. It was not the "open sesame" to distinction there. The emphasis with which the affluence of the Rothschilds is argued, in proof of their dominion and influence, arises out of the very stress and pressure on those who need some sophistical argument to support their error. The Rothschilds attained eminence before the accumulation of their resources, and the acquirement of their fortune was by the very means through which they secured social and political position. Educated and intelligent, high-minded and liberal, sagacious yet prudent, fearless but cautious, full of energy yet temperate, and of a restless temperament that chafed under stagnation of any kind, they made their mark in politics as in finance, and impressed their abilities on a community that admired and encouraged by its plaudits such a show of sterling traits and characteristics. Their opulence was but the natural sequence of their remarkable industry and talents. Had they failed to gather about them such cumulative strength as enabled them to negotiate vast loans and consummate successful schemes for the reduction of national debts, or facilitation of straightened national markets—wielding with the mighty arm of wealth the power that is most felt and most telling—their salient talent would still have won for them enviable fame and place. What is their seat in Parliament to their throne on the bourse? or their representation in the ministry to their agency on "change?" Powerful within the circumscribed pales of their immediate family circle, they revel in a fortune more enjoyable than honors, and seek of Governments no favors their drafts cannot purchase or their checks invite.

Mr. Disraeli had no prestige. Caste, poverty, religion (or at least descent) were his drawbacks. No influences, no friendships of a

nature to extend a helping hand, and no associations, social, political, moral or elsewise were arrayed in his favor, but everything seemed to present a deadly hostility to his most cherished hopes and highest aspirations. Battling with the tenacity of determination and will against these apparently insurmountable impediments, stripped of all weapons save such as the armory of his own well stocked intellect afforded him, sustained by courage, impelled by zeal and spurred on to achivement by an ambition that suffered defeat, only like Anteus, to rise, with augmented strength and resolution, from the fall, he worked his way to place and power, from which, with a satiric smile of mockery, he can to-day look down on his detractors and his opponents.

The Lord Mayoralty of London was an unsought tribute to the merits of a distinguished Israelite. Mr. Solomon's municipal honors were but the appropriate award of a constituency that detected ability and worth in an unobtrusive citizen. He, content to wear the less ample robes of local office, dignified the calling of a high civic sphere rather than scramble for the more gracious gifts of the commonwealth.

But it is unnecessary to multiply instances. Those who think money the only touchstone to Jewish success and exaltation, evidence as profound and as unaccountable an ignorance of their true history as those who seek to raise them to distinction by the weak and inoperative lever of religious toleration.

We will not go back to comparatively primitive times, when David chanted his magnificent psalms and Solomon uttered his proverbs of philosophy and wisdom—when Isaiah spoke his splendid prophecies in the surpassingly eloquent language of inspiration, and Ezekiel painted his gorgeous visions in a dialect as beautiful and expressive as his dreams. We leave the great law-giver, Moses, with the valiant commander, Joshua, and the grand old high priest, Aaron, to such as search among musty archives for examples the dazzling brilliancy of which shine out through the tangled webs of antiquity.

To more modern periods we turn for support, and to more accessible data we look for assistance. Christianity need not start nor misgive its faith, when we insist that Jewish laws are obeyed no less than Jewish literature is imbibed, by Christians. In fact, existing laws and present literature not only smack of Judaism, but are *saturated* with it—to quote Disraeli, we think, in his "New Generation." It cannot be ignored that the first Jesuits were Jews, and we have the best authority for affirming that the very founder of spiritual Christianity, Neander himself, afterwards Regius Professor of Divinity in the University of Berlin, was also an Israelite.

The literary culture and intellectual development of this favored race present a singular phase to the observation of the inquisitor. Where they pretend to letters they generally become erudite, and seem to hold superficiality in disrepute and disesteem. It is rare to encounter a Jew whose vocation is that of letters—a mere sciolist.

Their attainments are not so much the result of perseverence and energy as of the natural constructiveness of their minds, their wonderful aptitude, their keen insight, grasp of comprehension, compass of intelligibility and extraordinary retentiveness of memory. We speak no empty laudations. Personal contact and association with these people have impressed upon us the conviction of the qualities we have ascribed to them, and experience has only confirmed and deepened the impression. We will fortify our assertions by a slight retrogression, for the purpose of tracing the existence of eminent men of their race through successive generations.

Passing, with the formality of a simple introduction, Maimonides, the compeer, as has been urged, of Father Aquinas, whose reputation for great learning is only equalled by his vast intellectual powers, and Spinoza, a master of modern philosophy, we will mention with respect and admiration Benary, of the same institution with Neander, and Wehl, the Arabic professor of Heidelberg, whose installation in an university, famed for its scholarship and ripe learning, incontrovertibly establishes his claims as a linguist and adjusts the true measure of his high renown. Let us not forget that among other Jewish historians there flourished, centuries gone by, one whose works are preëminently to the Jews what Tacitus was to the Latins and Heroditus to the Greeks, and the compilations of Flavius Josephus are as authentic records to the world as are any of the archives gathered for universal information and standard reference.

Scanning over the titles of foreign nobility, we find Count Cancian at the head of Russian finance, figuring with distinguished ability and influence in the courts, in the capacity of minister; and Spanish honors, in the midst of Catholicism, heaped upon Senor Mendizabel. Towering above the heads of an Assembly embodying more statesmanship, more genius and more diplomacy than any convention that was ever congregated together to supervise and arrange national affairs, presenting interminable complications and delicate involutions, and essentially enlisting policy, State-craft and foresight, we see the son of a French Jew, President of the French Council, whose name is inseparably linked with the elder Napoleon, swaying the Cabinet as he led in the field to honorable conquests and deathless triumph. But Marshal Soult stands not alone. There is Massena—whose real name is, by the by, Manasseh—one of the pillars that supported the columns of the Bonaparte military dynasty. Both beaconing, with the immortal Corsican, the eagles of France, from the fertile plains that border the Rhine to the regions that encompass the Alps, over the Appenines that range, in lofty undulations, through Italy, to the slopes that sweep over the bridge of Arcola, and through the ensanguined fields of Austerlitz, to the far-off Baltic, whose shores were resonent, long after the horrors of that invasion ceased, with the echoes of the thunder that pealed from Moscow.

Prussia, too, has her Count Arnim—Prussia, notorious for the stringent discipline and cruel servility of its *regime*—Prussia, narrowing its privileges and its prerogatives to an almost despotic autocracy—whose rulers, from immemorial time, have been bad and vicious tyrants, demanding the most vigorous exactions from their subjects, and exercising over them the most merciless and arbitrary dominion. From Frederic William, of whom it has been significantly said, "his palace was hell, and he, the most execrable of fiends, a cross between Molock and Puck," to Frederic, surnamed the Great, whose glory as a captain of transcendant ability and a King of extraordinary parts, was paled by the glare of evil passions, if not eclipsed by the blackness of his actions and his heart; down to more recent epochs, when, as formerly, the Jews were persecuted with relentless hate and punished with malignant ferocity; no magnanimous concessions effected the change which released the Jews of their thraldom there and rid them of their disabilities. The antipathy was too fierce to be tempered by suasion, and the prejudice too deep to be eradicated by growing liberality. The character of the Jew, and the importance to which he struggled, by the persistant pressure of a puissant will, and the ready display of adaptation to business, his tact in politics and his shrewdness in finance, his sharpness in trade and his skill in diplomacy, forced themselves into acknowledgement and acceptance. No unfitness in commercial and monetary affairs was to be expected of a people who had originated the Bill of Exchange, one of the most essential links in the chain of mercantile intercourse, if not of paramount import to all the relations of business life, and its very vitality in local as in international trade transactions—a people who had guided the fluctuations of the bourse, the magicians of the stock and bond exchange, and princes of every port. No incapacity was looked for in a people who had exhibited military prowess in the field and wielded considerable influence in the Cabinet, and whose presentation of claims everywhere was synonymous with their establishment.

Take the realm of Music, and a host of master composers throng its melodious domain, whose genius will survive the "fate of empire and of rule," because of the eternity of song. We forget the voices of the sweet, simple singers of Israel, and of the holy psalmists, who have made the timbrels sacred in the grand burst of harmony that, like a diapason, swells from the lips of Rossini, Myerbeer and Mendelsohn. We need not the chant of Miriam, the songs along the sea-shore, that rose like a "carmen triumphale," rather than a requiem, above the roar of the waters that engulfed the Egyptian task-master and his multitudinous hosts. Had the harp hung forever on the willows that drooped in mournful accord with the spirits of the weepers, by "Babel's streams," and "*mute, oh! Israel,*" been "*thy choir*" forever, too, there was enough of the genius of song left in the soul of thy people to "*sound for aye! full many a lay*"—enough of the soul of music bequeathed to posterity to soften thy

children's hearts and attune thy children's natures. Bridging the intervening space, as it were, with silent admiration and reverence, we are content to rest awhile with the memory of the late Rachel, in the department of the drama, and close this portion of our review with the suggestive citations, more potent than panegyric, of the familiar names of Pasta and of Grisi.

Years ago, retracing our steps from remoter periods, there were no less than ten Jewish professors at Berlin, and we have been personally informed by a student of a French academy, that most of the honors were invariably carried off by the Jewish scholars in the French colleges. Only a few days have passed away since, at a festival in Prussia, given to the German Customs Parliament and to Bismarck, the "cynosure of all living eyes" in European diplomatic circles now, out of the one hundred and forty guests, the same ratio being subscribers, no less than ninety were Jews, which, as alleged in connection with the fact that nearly one-third of the members of the Prussian Parliament are Jews, is an evidence of their prominency in German politics.

But what is the testimony of modern times? Is it necessary to reproduce Disraeli, Rothschild, Salomon, or shall we add Goldsmidt to the British lists? Shall we unroll the scroll of France, to read the inscriptions of such characters as Messrs. Fould, Cremieux, Marié, Persiré? Must we enter Holland, to search out Mr. Asser and Mr. Godfroi, or revisit Germany, to drag more pointedly to view Mr. Jacobi and Mr. Reisser?

Enough that we accept Sir Edward Lytton's dogma that "*Knowledge is power*," against the aphorism that money is omnipotent, for wealth can only come through intelligence, unless as an inheritance, and mind is the secret spring of all valuable acquisitions. Sectarian as we may be, prepossessed or prejudiced as we are, we cannot exclude the Jew from his legitimate possessions. Of these, none are so predominant as "energy, temperance, vivacity, industry, *and tolerance of other religions*" "He is rapidly becoming," cry aloud the alarmists, "a great landed proprietor." "His estates are spreading on every side," ring out, with sonorous acclaim, the trenching property-holders. "Listen to the jingle of his bags of roubles and thalers, sovereigns and doubloons," ask the envious money-brokers; "and hear," say the jealous dabblers in stocks, "the rustle of his crumpling bonds." What but his financial knowledge, trained in a school of daily tuition, has graduated him with wealth, as with the diploma the collegiate receives at the end of his curriculum?

But other honors await him. There are already scattered throughout the United States, attorneys and Judges, whose legal accumen is as pointed and whose knowledge of jurisprudence is no less accurate and extensive because they do not flaunt in the forum the insignia of their religion, and wear the "*Tephalim*" as "a sign upon their hands." It would be simply supererogatory to cite the numerous instances of elevation to offices of trust, honor add emolument, that

have occurred among the Jewish persuasion in America, from the fact that Republicanism acknowledges, and the strictly democratic principles of such a Government demand, no passports to position but the credentials of individual worth or personal fitness. And yet there still courses through the veins of all societies, but more especially in our cis-Atlantic home, a hidden, but a strong, deep undercurrent of prejudice against the Jew. It flows through communities, as an inheritance descends to succeeding generations. Like the full, swelling streams that roll silently along, far from the sources whence they spring, this sentiment is but a tributary of the more catholic feeling that had its fountain-head in the past. The progress of the age will not absorb it; its liberal enlightenment and its rapid advancement cannot

"Its currents turn away."

Henceforth, the Israelite has only to confront the opposing tides with the self-confidence and moral courage of his ancestral Archetypes, and he will not only successfully breast the surges, but in time dissolve it as a bubble. "You cannot," says Disraeli, in his "Coningsby," "destroy a pure race of the Caucassian organization. It is a physiological fact—a simple law of nature, which has baffled Egyptian an Assyrian Kings, Roman Emperors and Christian inquisitors. No penal laws, no physical tortures, can effect that a superior race should be absorbed in an inferior, or be destroyed by it. The mixed persecuting races disappear—the persecuted race remains."

Hitherto we have seen that intellect, will, character, have formed the triple agis with which the Hebrew race have panoplied themselves. The same mailed armor is within their reach. Let them grasp it and enter the lists. The lances of the "*Wilfreds of Ivanhoe*" will neither bend nor break.

ART. VII.—RECOLLECTIONS OF MEXICO; OR, ROAD AND MOUNTAIN.

[Continued from July Number.]

CHAPTER XII.

HEIGHT OF CHOLULA—THE DOCTOR MORALIZES ON THE DESTRUCTION OF ANCIENT ALTARS, AND WINDS UP WITH AN INSTRUCTIVE LESSON—A ROMAN PROCONSUL'S DESCRIPTION OF CHRIST—THE DOCTOR ELUCIDATES THE HIEROGLYPHICS ON AN ADOBE BRICK FOUND IN THE PYRAMID, QUOTES HERODOTUS, DECIEVES THE PARTY, AND DELIGHTS DON MANUEL—GRANDEUR OF MONTEZUMA.

Such is the description we find given of the god *Quetzaecoatl*, to propitiate whom such bloody holocausts were offered up. It is believed by some that Buddhism was established in Mexico at a remote period, coming from Java by the Indian and Pacific oceans.

It is shown that a connection existed between Japan and Central America about the same time as Japanese records and maps attest; and that a large trade was carried on in olden times along the coast of Asia, extending from Japan to Hindostan. If such were the case, there could have been no difficulty in extending that trade to the western shores of America, by way of the Aleutian Islands.

There is little doubt that their religious worship came from the East. The lingham, or phallus, in former times, was associated with Sabean worship. In the cities of Pomico and Tlascalla, the worship of the lingham existed at the time of the conquest. At Uxmal, in Yucatan, Mr. Stephens observed certain ornaments upon the external cornice of several large buildings, the meaning of which was too plainly sculptured to be misunderstood. Indeed, the evidence of this revolting worship is found in America as far north as Tennessee. Images have been frequently ploughed up, formed of clay, and some of amphibolic rock—the toughest of all stone—the characteristic features of which left no doubt as to the nature of the worship in which they had been employed.

A recent English writer, alluding to this subject, says: "All this is very unsatisfactory. Supposing the natives to be *Autochthones*, which we by no means assert, it would be as natural for them to concieve production the highest work, and therefore to worship the Lingham and the Sun, as the first emblems of productive force, as the Hindoos to do so. A similarity of that kind proves nothing, except the identity of human intellect everywhere, but a similarity of buildings prove a great deal."

The disciples of the new school who hold the doctrine that mankind was first placed on the earth in many separate and distinct pairs, in different geographical centres, cannot very well establish their theory by means of the aboriginal American; for, whatever might have been the similarity of worship growing out of the "identity of the human intellect," the similarity of structures found in Yucatan and elsewhere, and those of Egypt, goes far to prove identity of race. Nay, this very identity of intellect is more favorable to the idea of man's common origin than it is to the opposite doctrine, which disconnects him, gives him originally distinct organization, different location, and surroundings which are less conducive to the creation of a similarity of thoughts than if he sprang from a common source and locality.*

The pyramid has, or rather had, the form common to the Mexican teocallis—that of a truncated pyramid, facing with its four sides to the cardinal points of the compass, and divided into the same number of terraces. Some do not hesitate to say that the interior is a

* In the plates of "The Primitive Inhabitants of the Scandinavia," by Professor Sven Nilsson, will be found a close resemblance between some of the objects figured, though the time and space that separate them are immense.

For example: "There are two arrow-heads which look so exactly alike that they might have been made by the same hand and on the same day. Yet one comes from Scandinavia, and is at least two or three thousand years old, the other from Tierra del Fuego, and was made not more than twenty years ago."

natural hill, though the opinion prevails that the entire structure is artificial; the alternate layers of brick and clay certainly run deep enough to warrant the latter opinion. Its height is variously estimated at from 162 to 205 feet. Brantz Mayer quotes an extract from an account given of it by an officer of the American army, "containing," he says, "some interesting facts, and corrects scientifically the measurements of the pyramid which were made by Baron Humboldt."

"Its dimensions," says this officer, "according to Humboldt, are: Base 1,060 feet, elevation 162 feet; but its altitude is much greater. On the day of our visit, Lieutenant Simmes, of the Navy, who had provided himself with a pocket sextant and tape line for the purpose, determined its altitude to be 205 feet. As this measurement differed so widely from that of Humboldt, Lieutenant Simmes requested Lieutenant Beauregard (General Beauregard), of the engineers, who visited the pyramid a few days afterwards, to test his observations, which Lieut. B., using a long base, did, making the altitude 203 feet. These two observations, from different points with different bases, and both with the sextant, show conclusively that Humboldt, who used a barometer, was in error."

It is possible that Humboldt may have erred in his calculations; but the fact of his using a barometer to measure the altitude of a structure little more than half the height of some of our churches, with an instrument the use and nature of which he so well understood, in which the variation of the mercury of *one tenth part of an inch*, at the altitude of the spot on which the pyramid stands, to say nothing of the atmospheric liabilities, would show a difference of altitude of $123\frac{2}{5}$ feet—is, to say the least, rather odd. I had no trigonometrical instruments with me to determine its height, and I certainly never dreamed of using the barometer for that purpose. Had I known, however, of this discrepancy at the time, I would have contrived some way of getting at least an approximation of its height It undoubtedly has all the general appearance of being higher than Humboldt states it to be.

While rambling about the pyramid, we at length found ourselves opposite a part that had been cut into for the purpose of making a road. Here, for the first time, we had a view of the materials of which it is constructed, laid bare by the unsparing hand of the innovator.

"We should never destroy the altars at which we had once worshipped," said the Doctor, in a moralizing tone, as his eye rested on the disfigured part. "They should remain to point out those moral spots where man worshipped according to his light, from age to age of the world's history, from the beginning."

On one of the party expressing his doubt of the sacredness of a spot whose bloody records were so abhorrent to the feelings of Christians, the Doctor, with a smile, turning to the speaker—a young officer who accompanied us up the pyramid—said: "Perhaps, if I were to view the subject from the same point and through the

same atmosphere, the effect on my feelings would necessarily be the same. The sacrifices offered up by a remote people to a god, or gods, in whom they believed, were offered with similar intentions to those offered now to one God, nevertheless having three distinct persons. However men may be judged and punished for their acts in this world, surely, in the next he will be judged according to his good or bad intentions. However sanguinary these ancient holocausts may have been, they were offered up to probitiate their god, for sins committed, or with the expectation of having favors conferred on them. These are precisely the same objects for which the most civilized of us offer up their prayers to day. Abraham was on the point of shedding the blood of his own son as an offering to the Lord when prevented by His voice. Would the Lord have held him culpable, had he slain his son in his blindness? If we live in an age when God, through his Son, vouchsafed to shed upon us a diviner, holier light by which we see things clearer than those who have gone before us, the more reason there is to be thankful and judge with charity the acts of those whose misfortune it was to have lived in an age of darkness. The homes of the law-abiding were never invaded to furnish victims for those sacrifices; the victims were those who were condemned by the laws, or were enemies taken in battle. Suppose the bones of all the criminals sacrificed in modern times to puplic security, under the Christian dispensation, could be collected in one heap—what a goodly sized pyramid it would make.

"It was not until the Jews, who were the first to introduce into the world persecution for opinion's sake, that another class of victims were found, among whom was *Jesus of Nazareth*.* The ages of persecution and contempt which the Jews have since suffered, long and cruel as they have boen, seem hardly sufficient to expiate the crime of initiating among men so foul a system. And, as everything evil appears to take a deeper, or at all events, as deep a root in the man as that which is good—'we require to be educated in good; evil comes as if of itself'—the Romans were not slow in following the example set them by the Jews, in the persecution of the early Christians, and they in turn, whose dogmas and precepts point a different way, persecuted those who differed from them, when they became powerful enough.

"Yet it seems strange that fallen man should have existed so long on the earth without giving some previous evidence of this kind of persecution, and it is stranger still that God's chosen people should be marked out as the first to introduce it. Nevertheless, there is authority enough for what I assert."

After a short pause, the doctor again commenced by expressing his surprise that nothing else could be inferred from a passage in

* The Roman Governor (Pilate) certainly did not seem inclined to punish the sort of crime for which Jesus was brought before him by the Jews; for "when he had called together the chief priests and the rulers, and the people, said unto them: Ye have brought this man unto me, as one that perverteth the people; and behold I have examined Him before you, have found no fault in this man touching those things whereof ye accuse him." (St. Luke, chapter 23, v. 13 and 14.)

one of Cortes' dispatches, than that the Mexicans were cannibals. The passage alluded to runs as follows: "Thus, by means of this ambuscade (referring to the attack on Mexico), more than fifteen hundred of the enemy were slain, all persons of distinguished rank and valor; and that night, our allies (*Tlascalans*) were well supplied for their suppers, as they took the bodies of the slain and cut them up for food."

In another part of the same dispatch, he says, alluding to the operations of one of his captains: "Advancing to the more level ground, he discovered a body of the enemy near a stream, who had just set fire to another town; as soon as they saw him, they began to fly; and on the road they took our people found in their rear large quantities of maize and the roasted flesh of children, which they had for provisions, but abandoned as soon as they saw the Spaniards."—See Folsom's Translations of Cortes' Dispatches, pp. 304 and 313.

These extracts make it plain that the Mexicans were cannibals, unless, indeed, Cortes totally misrepresented them. No people who were not addicted to the horrible practice would feed upon roasted children, with large quantities of corn in their possession, though they might have done so while suffering from famine, and not be usually addicted to the practice.

"I find it impossible," remarked the Doctor, in a musing tone, "to reconcile cannibalism with such evidences of civilization as we read of in the books relating to this country, but which I must confess I do not find in the soil—certainly not in anything like a corresponding degree." Here he raised his eyes from the debris of the pyramid on which he had been apparently steadfastly gazing, and cast them over the miserable little town which, as I have before remarked, presented no vestige of its former grandeur. "Ah!" exclaimed he, turning away, and winding up in his usual style, with a quotation, "*Veritas visu et mora, falsa festinatione et incertis valescunt.*"

Whatever light may be thrown on the "truth" or "falsity" of this revolting practice by "deliberation" and "scrutiny," it evidently requires little of either to prove that such, or similar, statements are grossly exaggerated. Du Par, in his "*Recherces sur les Americains,*" says that Montezuma sacrificed twenty thousand children annually to his idols in the temples of Mexico alone.*

And yet the magnificence and evidences of refinement with which this monarch of a cannibal people was surrounded, is thus described by the same authority—Cortes: "In regard to the domestic appointments of Montezuma, and wonderful grandeur and state that he maintains, there is so much to tell that I assure your Highness I know not where to begin my relation so as to be able to finish any part of it. For, as I have already stated, what can be more wonderful, than a barbarous monarch, as he is, should have every object found in his dominions imitated in gold, silver, precious stones and feathers; the gold and silver being wrought so naturally as not to be surpassed by any smith in the world; the stone work executed with such perfection that it is difficult to concieve what instruments could have been used; and the feather work superior to the finest productions in wax or embroidery. * * There was one palace somewhat inferior to the rest, attached to which was a beautiful garden, with balconies extending over it, supported by marble columns, and having a floor formed of jasper elegantly inlaid. There were likewise belonging to it ten pools of water in which were kept the different species of water birds found in the country, of which there is a great variety, all of which are domesticated; for sea birds there were pools of salt water, and for river birds, of fresh water. The water is let off at certain times

Twenty thousand children taken annually from a single district would very soon render the country desolate, if the practice was general, which it is fair to presume it was. No ruler would be likely to countenance a practice, even though it assumed the shape of a religious rite—not to mention the numbers roasted and eaten—having such a tendency to depopulate his kingdom. Despots of the olden time took much greater care of their people generally than the modern world gives them credit for.

Don Manuel, who had been all this time scraping away the clay from a part of the structure, which here seemed to be composed of dobes—sun-dried bricks, interspersed with fragments of stone, por-

---

to keep it pure, and replenished by means of pipes. Each bird is supplied with food natural to it when wild. And I assure your Highness, that to the birds that are usually accustomed to eat fish there is given the enormous quantity of ten arrobes, 250 pounds, every day, taken in the salt lake. The Emperor has three hundred men whose sole employment is to take care of the birds.

"Over the pools of the birds there are corridors and galleries to which Montezuma resorts, and from which he can look out and amuse himself with the sight of them. There is an apartment in the same palace in which are women and children whose faces, bodies, hair, eyebrows and eyelashes are white from birth. The Emperor has another very beautiful palace, with a large courtyard paved with handsome flags, in the style of a chess-board. There were also cages about nine feet in height and six paces square, each of which was half covered with a roof of tiles and the other half over it, a wooden grate, skilfully made. Every cage contained a bird of prey of all species found in Spain, from the Kestrel to the Eagle, and many unknown there. There was a great number of each kind, and in the covered part of the cages there was a perch, and another on the outside of the grating, the former of which the birds used at night time, and when it rained; and the other enabled them to enjoy the sun and air. To all these birds fowls were given daily for food, and nothing else. There were in the same place several large halls on the ground floor filled with immense cages, built of heavy pieces of timber, in all or most of which were kept Lions, Tigers, Wolves, Foxes, and a variety of animals of the cat kind in great numbers, which were also fed on fowls. The care of these animals and birds were assigned to three hundred men. There was another palace that contained a number of men and women of monstrous size, and also dwarfs and crooked and deformed persons, each of which had their separate apartments. They also had their respective keepers.

"As to the other remarkable things the Emperor had in his city for his amusement, I can only say they were numerous and of various kinds.

"He was served in the following manner: Every day as soon as it was light, six hundred nobles and men of rank were in attendance at the palace, who either sat or walked about the halls or galleries, and passed their time in conversation, but without entering the apartment where he was. The servants and attendants of these nobles remained in the courtyards, of which there were three of great extent. They all remained from morning till night; and when his meals were served the nobles were likewise served with equal profusion, and their servants and secretaries also had their allowance. Daily his larder and wine cellars were open to all who wished to eat and drink. The meals were served by three or four hundred youths, who brought on an infinite variety of dishes; indeed, whenever he dined or supped the table was loaded with every kind of flesh, fish, fruits and vegetables that the country produced. *As the climate is cold* (the italics are our own), they put a chafing-dish with live coals under every plate and dish to keep them warm. The meals were served in a large hall, in which Montezuma was accustomed to eat, and the dishes quite filled the room, which was covered with mats and kept very clean. He sat on a small cushion, curiously wrought, of leather. During the meals there were present, at a little distance from him, five or six elderly *Caciques*, to whom he presented some of the food. And there was constantly in attendance one of the servants, who arranged and handed the dishes, and who received from others whatever was wanted for the supply of the table. Both at the beginning and end of every meal they furnished water for the hands; and napkins used on the occasion were never used a second time; this was the case also with the plates and dishes, which were not brought again, but new ones in place of them; it was the same also with the chafing-dishes. He also dressed every day in four different suits, entirely new, which he never wears a second time.

"None of the *Caciques* who enter his palace have their feet covered, and when those for whom he sends enters his presence, they incline their heads and look down, bending their bodies; and when they address him they do not look him in the face; this arises from excessive modesty and reverence. I am satisfied that it proceeds from respect, since certain *Caciques* reproved the Spaniards for their boldness in addressing me, saying it showed a want of becoming deference. When Montezuma appeared in public, which is seldom the case, all those who accompany him or whom he accidentally met in the streets turned away without looking at him and others prostrated themselves until he had passed.* * * So many and various were the ceremonies and customs observed by those in his service, that more space than I can spare would be required for details, as well as a better memory than I have to recall them; since no sultan or other infidel lord of whom I have any knowledge ever had so much ceremony in their courts."

This is hardly the description one would expect to find of a cannibal, or of one who would tolerate cannabalism in his people.

phyry and limestone—now detached a square block of adobe, on which appeared impressed some hieroglyphic characters. A dispute arose among the party, the number of which was augmented by the presence of several officers of the army, as to whether the characters were the result of human hands, or were merely accidental impression, for the indentations in the block, it must be admitted, were somewhat indefinite, if not indistinct.

On the Doctor being called on for his opinion, this erratic disciple of Esculapius expressed himself as decidedly favorable to their reality, and forthwith began tracing with his finger the outlines of what he made appear as a pipe, a cup, some plants, and what might pass, with the help of a strong imagination, for a banana or plantain.

Various were the conjectures and speculations hazarded as to the legend these characters—as traced by the Doctor—symbolized. He settled the question, however, in characteristic style, by emphatically expressing the belief that they represented the number of pipes of tobacco smoked, glasses of pulque swallowed and bananas eaten by the laborers in building the pyramid.

"Not so fast, not so fast, gentlemen," cried he, as the roar of laughter which succeeded this ludicrous announcement had somewhat subsided. "Your laughter is an evidence of that modern prejudice which has a tendency to judge of ancient things through modern ideas, and which so often warps our view of history. One little passage in Heredotus will convince you that your laughter is not so well-timed as you may imagine. Heredotus tells us that, on asking the meaning of an inscription on one of the pyramids of Egypt, he was informed that 'it recorded the quantity of onions, leeks, &c., consumed by the laborers in the erection of the monument.' Some men whom the world considers wise have laughed at this, just as you are now laughing at me; but for all that, I believe not only as to his having asked such a question and receiving such an answer, but that the answer given him was the true one. What is considered a fit subject for laughter to-day, viewed through our modern spectacles, is by no means so certain to be so considered by people who lived four or five thousand years ago. Josephus tells us that in the days of bondage the children of Israel were employed in building pyramids, and the Bible tells us that they were well fed on fish, cucumbers, melons, leeks and onions. Indeed, the remembrance of this feeding—'They loved the flesh pots of Egypt'—was in a great measure the cause of that demoralization which Moses had such difficulty in counteracting, amid the starving hardships of the desert, where, before their minds arose those very articles of food mentioned by Herodotus as having been inscribed on the pyramids, those stupendous monuments of their labors. 'We remember the fish we did eat in Egypt, the cucumbers and the melons and the leeks and the onions and the garlic, but now our souls are dried away.' Should it be such a cause of wonder, then, if one of the despotic Pharaohs—taking pride even in the act—should have caused to be recorded on

the pyramids—by way of a reminder—the quantity and style of food on which the builders fed. Nor should it be a source of mirth to you, gentlemen, if the highly interesting relic now before us, which the keen perception of Don Manuel" (here the Doctor smiled and bowed to that gentleman,) "as well as his zeal in the cause of knowledge have for the first time brought to the light of a more mature world, should bear upon its face a record of this most ancient structure. No one, I am sure, would accuse me" (here he again smiled, this time sardonically,) "of treating so grave and important a subject with a levity which I beg to assure you was far—very far—from my thoughts."

"Certainly not," promptly responded Don Manuel.

The remarks of the Doctor, the beginning of which met with such good-humored ridicule, ended by having a graver, if not a deeper, attention bestowed upon them. And Don Manuel, whose feelings had taken an indignant turn at what he first looked upon as unpardonable levity, approached him with ceremonious bearing but with a most pleased and gratified air, expressing the deep interest he felt in the discourse. This amiable gentleman betrayed the unmistakeable respect he paid to his opinion by requesting a further elucidation of the interesting relic before us, which was now invested with special interest.

To further draw meaning from the dim, undefined characters on the block, the genuineness of which I believed the Doctor himself doubted, notwithstanding his broad assertions to the contrary, was a task I plainly saw he would rather leave undone, but the grave interest Don Manuel betrayed left him no other alternative. He accordingly seated himself before the block, surrounded by the whole party, and slowly commenced tracing out the characters already described, to which, in a short time and with the help, of course, of the imagination, he added a great many more, drawing a legend out of one, pointing a moral with another, and out of the whole drawing light where a moment before was all darkness, with an ingenuity that astounded me; and I was actually becoming as deeply interested as even Don Manuel himself, when I happened to catch the eye of the Doctor, which beamed with such droll, happy humor that I had to beat a sudden retreat to avoid betraying him.

Retiring behind the neighboring shrubs, visions of the immortal Pickwick rose before me, umbrella under arm, spectacles on nose, solemnly bending over the highly mysterious characters of a remote age, traced upon the stone standing against the wall of the English laborer's cottage, but which some unbelieving skeptic grossly insinuated were nothing more than "*Tom Stubbs, his mark*," very rudely scrawled by some rustic acquaintance of the said *Tom*.

(To be continued.)

ART. VIII—THE LABOR QUESTION IN ENGLAND.

DEGRADATION OF THE ENGLISH FARM LABORERS—AGRICULTURAL GANG SYSTEM—SCOTCH BONDAGERS—THE LAND MONOPOLY—DANGEROUS CLASSES—HOW THEY ARE TREATED.

[Correspondence of the Cincinnati Gazette.]

NOTTINGHAM, ENGLAND.

I mentioned in my last letter some facts showing the average rate of wages paid in Southern England to farm hands, and also the average best rates paid where that labor was most in demand. I find myself here in the midst of what is known as the "Fens"—a large tract of marshy lands running through Lincolnshire, Cambridgeshire, Norfolk, and large portions of Suffolk, Huntingdonshire and Nottinghamshire; also, to a more limited extent, in the counties of Bedford, Rutland and Northampton. It was my fortune, when a youth, to reside a long time in Cambridge, in the midst of her splendid collegiate edifices and beautiful natural surroundings. I remember distinctly the appearance of the "fen lands," which stretched a few miles from that university in all directions. The waters of the River Cam, and of canals which pierce that region, were literally higher than the land. Holland, as I had read of it, was here reproduced. The country was notoriously unhealthy, and not then esteemed of great value. Since modern agricultural science has drained vast tracts, and it is in this region that the infernal system of "agricultural gangs," now creating so much discussion and animadversion here, is carried out in its most atrocious vigor. No picture of laboring life and conditions in England would be complete without bringing into it the facts relating to the circumstances of the farm laborer.

THE LAND MONOPOLY—DESTRUCTION OF COTTAGES.

In my last letter I gave some of the statements made by Ernest Jones, Alfred A. Walton and others with regard to the rapidly increasing monopoly in land. The importance of the subject will bear further reference, because it may yet happen that in an attempt to correct this pernicious system, which at no distant day will be made, a collision between the oligarchy and the fast awakening democracy here seems more than probable. Mr. Ernest Jones, in his recent speech, made this statement:

"In 1770 there were 250,000 landlords in the United Kingdom; now there are less than 30,000, of whom nearly 9,000 are in Ireland. Thirty thousand men say to thirty million people, 'Here you shall plow, and sow, and reap, and there not; here you shall build, plant and work, and there not.'"

The London Telegraph, which stands to the English press in somewhat the same relation as the New York Herald does to our own, has called in question the accuracy of these statements. It

says that a return, laid before the House of Commons in 1865, shows that at that time there were 358,526 freeholders in England, 22,425 proprietors in Scotland, and 8,752 freeholders in Ireland, or something like twelve times the number as given by Mr. Jones. The Telegraph's dodge is characteristic. The "freeholder to which it appeals is not a "landowner," in the sense required to controvert the first statement. The freeholds are in the main owned in towns and villages, and consequently are not within the purview of the argument made here by the Radicals, that within a century past the landowners have rapidly decreased, and pauperism and abject poverty proportionally increased. Four thousand yeomen, men who farmed their own lands, accompanied their chosen representative, John Hampden, to London, when he went there to resist an unlawful impost. But barely the one-hundredth portion of that number could be found now in his famous county of Buckingham, represented as it is by a very different man from the sturdy Anglo-Saxon of the first Charles's time. Disraeli, the Semitic adventurer, rules the country gentlemen party of England, thus proving the supremacy of brains, and adding another brilliant name to the rolls of that wonderful Hebraic people, who, driven from their own lands, are yet master-spirits in many lands.

But to return. Land daily becomes a more active monopoly. Under this policy it is declared that 39,000,000 are not under cultivation—that, too, in a land which derives one-fifth of its entire subsistence from foreign countries. One item alone of import is worthy of mention. Eleven million dollars worth of eggs are imported from France for consumption in Great Britain. In France there are six million peasant landowners; in England there are none, except in Cumberland and Cornwall, where lingers some vestige of the yeomanry. As in the British West Indies, emancipation compensates the losses of sugar and cotton—the favorite products of slave labor—by a hundred smaller articles of culture and traffic, easier raised by the laborer, so the French landholder raises enormous amounts of articles such as these, and thus overbalances the grain crops and sheep farming, the profitableness and productiveness of which is a boast of the English farmer.

It appears by recent returns that there are in all England, Wales and Scotland, under cultivation for grains, but 7,941,578 acres, which is an increase of a little over 20,000 for 1866. Setting this fact against the 39,000,000 acres not under cultivation, and we shall have some proof of causes which operate to drive the poor people here to other lands.

Mr. Jones gave a striking example of the power of large landholders to increase their possessions and to prevent speculative purchases, in the person of Lord Leconfield, of Western Sussex:

"He is an illegitimate son of the last Earl Egremont. Luckier than most men, the bar sinister in his escutcheon did not hinder him from succeeding, by devise, to the vast estates of the deceased peer. His rent-roll amounts to £100,000 a year, and, as he told a

friend of mine, he does not and cannot, to use his own words, although he keeps a couple of packs of fox hounds, and stints himself in nothing, spend more than £40,000, thus leaving £60,000 per annum to accumulate for any use he may think proper to make of it. The use he puts it to is to buy up every piece of land in his division of the county, at any price, quite regardless of the return for the outlay, so that but for the estates of the Dukes of Richmond and Norfolk being in the same division, nothing could keep him from owning half of one of the largest counties in England. As it is, such is his power, that he returns the two members of Parliament for the western division of the county of Sussex as truly as if he were the only voter."

Among the many results which grow out of this land monopoly, and the desire consequent thereon, to make as much money as possible out of it, is the sheep-farm system, by which immense tracts are used for that purpose. It has been found more profitable than any other. One of its evils is the destruction of the hamlets and cottages of the farm laborers. It is established conclusively that it pays better to have land to raise turnips and feed sheep, and consequently out the cottagers have had to go, and their dwellings have by the thousands been torn down. This is an important fact in connection with the agricultural gang of which I shall speak.

The average number of inhabitants for each house in England was, in 1861, 5-37th; (in St. Giles, London, it was 13-93;) in Scotland it was 7-7; in Ireland, 5-81. It has largely decreased since then. Among the unjust and unequal burdens imposed here is the house rental tax. The rate is sixpence in the pound if the building rented is used for trade purposes, and *ninepence* if used for tenants. As a consequence, owners of real estate are not anxious to burden their lands with such a class of taxable property. As a further evidence of the decrease in accommodation for the agricultural poor, let me cite some facts from the evidence collected by the Children's Employment Commission: In 1864 there was a population in 822 agricultural parishes of 5½ per cent. larger than in 1861, while the house room is 4½ per cent. less. These parishes are nearly all under the domination of the large farm system, and are cultivated by the agricultural gangs. One parish in Cambridgeshire, the property of the Duke of Bedford, (the head of the great Whig family of Russell,) comprising 180,000 acres, all laborers come a distance of from six to ten miles. The town of Spaulding, in Lincolnshire, had in 1861 a population of 8,723, nearly all of whom were farm laborers. It has almost disappeared now, there not being as many hundreds of that class residing there. In the Isle of Ely, in the River Cam, where the beautiful Cathedral City of Peterborough affords attraction to the tourist, the population is almost entirely agricultural. Nearly all live in villages, from seven to eight miles from their work. There is not an average of five or six cottages to every five hundred acres. It is no wonder that the farm labor abandons this employment, and flocks to the already overstocked manufacturing towns and mining districts.

AGRICULTURAL IGNORANCE AND DEGRADATION.

It is hardly possible for one who has not investigated these matters, to realize that in this land of immense wealth, there should be amazing poverty, degradation, brutality and ignorance, as the facts establish. Professor Fawcett, the blind member of the House of Commons, and professor of political economy at Cambridge, I believe, has recently given a strong picture of the condition of the agricultural poor—a description not in any degree overdrawn. The peasant at his best is on the verge of destitution. He has no resources for a rainy day; and, indeed, all his days are rainy. If he can earn enough to give his children food, he cannot honorably support them. Even when in health, he is half a pauper, dependent for his few scant luxuries on the charity of those who are above him in society; and when sickness comes, or old age approaches, the goal of his toil is the workhouse. There is nothing so stupefying as want. If it does not make a man brutal, it renders him obtuse. The agricultural laborer has no interest in life beyond beer and bread. He knows nothing and cares for nothing out of the narrow range of his daily labor, and is happy chiefly in this, that he is only vaguely conscious of his misery. English rural life has indeed little that is Arcadian about it. Our laboring poor live in cottages that are for the most part scarcely better than hovels, in which common decency connot be observed; their children are ill taught, or wholly ignorant; and the rustic innocence of which our poets sing so pleasantly exists only in their pages.

It is out of this degraded mass that the governing classes here have always recruited the machinery by which itself has been kept in subjection. The mass of the English army and London constabulary are recruited from the farm laborers. I find more stir among them, or rather about them, than at any time during my lifetime. This fact is one of the strong evidences now being given of preparing for a break up in the English system. When reforms reach down to this class, who are actually the mud-sills upon whom rests the great superstructure of society here, this "dum driven" giant will begin to stir. If he undertakes to get on his feet, there will be a crash.

American believers in democracy often fail to understand the hesitation with which even such men as John Bright approach measures that aim to enfranchise these classes—the lowest substratum. Disraeli evidently angled to secure a preponderant off-set from among those called the "dangerous classes," whom he quite shrewdly regards as the friends of aristocracy, upon the principle, I suppose, that makes the Neapolitian lazzaroni the most fanatical of Papaline and Bourbon defenders. But if one will mingle with the lower English masses, go into their resorts, wander on Saturday nights and at other times about the lower streets of the towns, study their character, listen to their talk, see the style of their amusements, etc., he will no longer wonder at the hesitency which

such men as John Bright and Thomas Hughes, even, exhibit, especially when their trust of the people has had to be educated even into them. It must be borne in mind that about 53 per cent. of the English people cannot yet read or write. In the iron workers' district of Lancashire, it is stated that 40,000 men cannot read or write, while in the agricultural district the per cent. is very small indeed, of the elder generation, who can read their own name. It is a little better among the children. But every effort is made to discourage this among employers.

It would surprise American readers to have spread before them the authentic and authorized utterances of leading tenant farmers on this subject. That class has, I believe, a representative in Parliament, in the person of Mr. Paget. He is a member for the shire of Norfolk. In a recent speech this M. P., a Tory, of course, deprecated the inquiries being made by the Children's Employment Commissions, and also derided the cry for education which so strongly agitates England at this time.

As one of the most moderate protests against education on the part of the tenant farmer, I give portions of a letter which recently appeared in the "Public Opinion" newspaper. The writer says he is a farmer, and proceeds thus:

"At the present time, in the village in which I reside, nearly all the laborers can read a paper or a chapter in the Bible, and about 20 per cent. of them can write well enough for ordinary correspondence; and a great many people would be surprised to see how very quick they are at mental arithmetic. During the winter months all the men and boys leave work about half-past five, so that they have plenty of time to improve themselves in the evening, if they wish it. It is my opinion that the agricultural laborers would not be any happier if they were better educated. There is a great deal of hard work to be done on a farm, which requires strong and healthy men to do it, and the greater part of these men are badly fed and worse housed; and I think that a better education would only make them dissatisfied with their lot, and not lighten their troubles at all. And at the present time, as far as I can judge, their bodies want more care than their minds. There are many cases in the village in which I live where a man has seven or eight children, and the eldest not more than fifteen years old, and the man's wages, taking the winter and summer together, amount to about 14s. per week. It would be impossible for him to keep all those children and his wife and himself on that sum; so as soon as his children become of any use to a farmer, he is obliged to send them into the fields to work, as their small earnings are useful to him. If that man was obliged to keep his children at school till they were thirteen years of age, he must have assistance from the parish, which would increase the poor rates, which are quite high enough at the present time. Yours, etc.,

"Wilts, Dec. 24. A FARMER."

EMPLOYMENT OF WOMEN AND CHILDREN.

While in this section I visited one of the farms I have mentioned, and saw at work a specimen of the famous or infamous agricultural gang. There were about thirty or forty persons in this one, a part of whom I saw. One third of these were children, of both sexes, under twelve years of age, and the remainder youths, with a few women. The wages, I gather, are of the smallest possible amount, ranging from a couple of shillings, or less even, to about eight. It is much less in proportion than laborers employed in the ordinary way, because the gang masters are paid out of it. He is the middle man.

This horrible system grew out of two causes. The reclamation of the waste lands and destruction of cottages, etc., caused, in a great degree, by the landowners' fear that poor people might increase in his parish, and so he be taxed to support them as paupers. One whom I have consulted says:

"The system owes its origin to the law of settlement, which threw the burden of the poor on the parishes where they were born, or had otherwise acquired a settlement. To prevent the increase of poor families, and, collaterally, of poor rates, in certain parishes, the farmers and landowners pulled down the cottages and drove the occupiers into other parishes. Few laborers being left on the land, it became necessary to import labor, and hence the formation of the gangs under gang-masters, with whom farmers could contract for the performance of the work they wanted done. To the cultivator the advantage was obviously considerable. He could get the work of his farm done without having a heavy poor rate to pay; he also found ere long that he could get the work of men done by active lads and girls at a less charge than he would pay the men; and it may have been this consideration chiefly which led to the spread of the system."

The "gang master" is usually some middle-aged laborer, shrewder than his fellows, who contracts with farmers for labor, and then hires children and youths of both sexes, and women, to do work. It is a system convenient and cheap for the farmer, because he does not take the risk of the weather, as in ordinary hiring, and only pays for the work he has done. The middle man makes a good and easy living out of it, while the members of the gang itself seem daily to be sinking lower in degradation and poverty.

The system is found to its greatest extent in Cambridgeshire, Huntingdonshire, Lincolnshire and Norfolk. The reclamation of the great body of the Fens in the former counties, as well as large tracts of wild heaths, causes the utility and profitableness of the gang system. The fens extend for seventy-five miles, from Cambridge to Lincoln. They have been drained within the last twenty years, and are of inexhaustible fertility. So in Norfolk, great tracts of what are known as the low country, have been drained, and are now protected by dykes from the sea's encroachments, as it

is evident they were in the times of the Romans. The ancient dykes still remain. Immense tracts of wild moorlands have also passed under cultivation. One tract of 230,000 acres, once used as a rabbit warren, is now highly cultivated.

This region was scarce of labor. That was one of the causes which brought the gangs into use. As before said, the most potent cause was the fear of the poor becoming paupers in their parishes; so the laborer was driven to the open villages, to the hamlets which grew upon irreclaimable moors, far from the scenes of their daily labor. To so great a degree has this depopulation gone, that many very large farms do not have a single resident laborer on them. One man is mentioned, at Balston, Lincolnshire, who walks to his employment an average of fifty-six miles per week—*nine miles per day*—and receives the munificent wages of *twelve shillings*.

These gangs are under the entire control of the driver. It is naturally to be supposed that very many are bad men—a large majority are brutal. That is a characteristic of the lower classes here. Englishman as I am by birth, I cannot shut my eyes to the fact that in no other civilized lands are the very poor and dependent classes so very poor, dependent, coarse and brutal as here. Our freedmen are greatly their superiors in these two latter respects. Conservatives here have said as much to me when we have conversed about the reform movements. They allege the fact as an argument against the rights of the classes alluded to, just as our pro-slavery politicians do with regard to the former slaves. It is a scandal, not to the victim, but to the ruler, and it hardly seems possible to avoid the conclusion that a bloody, retributive reckoning waits in the balances.

The gang masters are known to frequently use the whip. The children are placed absolutely under their control. Some of these gangs number several hundred. They start early, meeting at the hamlet, and are then regularly marched to the places of labor. Five o'clock, A. M., is the usual hour of assembling, and from the distance traveled it is generally eight o'clock, P. M., before they get home. Children of eight years are shown to be in the constant habit of doing this. As a rule, children largely predominate in these gangs. They are cheaper. They pull weeds, pick stones, spread manure, gather root-crops, keep the growing crops clean, etc. The turnip pulling is very pernicious, and the children in the districts where this system exists are largely subject to curvature of the spine.

The employment of married women is reported as greatly on the increase, as well, also, of young girls. The latter are completely unfitted for house service after a brief period of field work. The amount of infant mortality that prevails in the region cultivated by gangs is frightful. The depravity existing, according to the report made to Parliament, and the general statements of persons with whom I have conversed on the subject, is indeed of the most horrible character. Here is a summary of some of the evidence given before the commission:

"The Rev. W. F. Bennett remarks that even those children who are steady and respectable when they first join a gang, soon become corrupted. The gang system, he avers, is the cause of a moral pestilence, and the girls who have worked in gangs can seldom obtain employment in domestic service. The Rev. R. Baker says: 'Girls for some time employed in gang work lose all taste for domestic pursuits; a love for unhealthy liberty sets in, untidy habits arise, they turn aside from service in farm or other houses, know little or nothing of sewing, washing, making or mending; and, entering upon marriage, are generally untidy, slovenly, and bad managing housepeepers. Young people in gangs are seldom found in week-day or Sunday schools.' The Rev. Mr. Hutton says the gang work 'makes the girls rough and lawless, and consequently unfits them for domestic service, and disqualifies them for their future positions of wives and mothers. There is in these villages,' he adds, 'a shocking want of modesty and self-respect among very many of the women and girls. Circumstances come to light, from time to time, of the grossest character, such as one would only expect to meet with in the very worst slums of our worst towns. I think there can be no doubt that this is mainly attributable to the gang system.' The Rev. H. Prior describes the conversation and songs when at work and returning home as most obscene and disgusting; and says 'it is quite common to hear children not above eight years old swear, and that such conversation is sometimes encouraged by the gang-master.' The Rev. H. Mackenzie says: 'The gang system acts as a blight and a curse to the parish. * * * The women who go to field work rarely manage their houses well or make their homes comfortable to their husbands. The girls are depraved in early life, and grow up coarse, and bold and corrupt. One who has often worked with them told me that he would rather see his girls go into the workhouse than to field work; and that he is the biggest hero among them who can tell the biggest lie and swear the biggest oath. Girls have not thus merely their ears polluted and their tastes depraved, but their hands are spoilt for domestic work, their sense of modesty destroyed, * * * and they grow up fond of the wild and reckless freedom of the fields, and utterly unsuited either for service in the house of a mistress, or for the proper management of a house of their own.'"

The morality and religious condition of these people it is emphatically declared to be worse than Sierra Leone, notoriously the most profligate of English colonies. Ninety-five per cent. of the gang people never enter a place of worship. Their educational condition is even worse. The instances cited by the commissioners of answers given by the children to the simplest questions will show what is the state of the case. R. T., a boy of eleven years, can read imperfectly, does not know 6 times 6, or 5 times 4; gets 1s. 6d. a day; cannot tell how much that is a week; says he lives in the county of England. H. S., a boy of ten, cannot read or spell. E. C., a girl of thirteen, cannot tell the name of the county, or the Queen's name.

J. S., a boy of ten, cannot tell 6 times 7; 3 times 8 are 18 (after considering, are 24); cannot tell the name of the country; says the sea is (after hesitation) wet. Another little examinee, being asked what sorrow is, replies: "Please sir, it's a bad word." Many of the children, even up to thirteen and fourteen, can neither read nor spell, and the majority of them do not seem to know the names of the county and the parish in which they live.

Of the treatment of these children and women thus employed, the testimony is general that they are worse used in the smaller and more private gangs than in the larger and more public ones. The gangs over which the farmers themselves have direct control are testified to as being the worse treated. Among the reprehensible practices common to this system is that of sleeping barns and sheds on the farms where employed. So worn out are these poor creatures when the day's work is over that they are known to fall in utter exhaustion on the ground.

REMEDIES PROPOSED.

Parliament has appointed a new commission to examine specially into the subject. The present investigation has been conducted by that appointed to examine into the general employment of children. It appears from its report that a million and a half of young children, youth and women are employed in this country, who are not within the provisions of the Factories acts, which have largely ameliorated the evils that formerly existed in the great factories and mills. Under that act children of certain age can only be employed during certain hours, and must attend school on many days, with other similar precautions. With regard to this gang system, the commissioners who have made the investigation suggest, "in the first place, that gang-masters shall be required to take out a license, to obtain which they must produce certificates of character, and that the license shall be revocable by the magistrates of the division. They propose to fix the minimum age at which boys may be employed at eight, and the age of girls at twelve. They would limit the distances at which children shall be allowed to travel in accordance with their age and with the hours of labor. They also suggest regulations for the separation of the sexes, and express their decided opinion that the principle of the Factory act should be brought into operation in regard to education, and that the children should be compelled, during a certain portion of their time, to go to school."

These go a little way as a palliative, but the remedy lies much deeper. The land system must be changed in Great Britain ere any great benefit can be wrought out for these people. More and more it is evident that none but radical remedies are available for evils so inwrought as those which exist here.

THE SCOTCH AND NORTH OF ENGLAND SYSTEM OF "BONDAGERS."

This is a modified system of slavery, which deserves a place in this letter, since one writes of these questions. The "bondager's" system is happily confined to the border counties of Scotland and

England. In this purely agricultural part of the country, where the flocks of sheep are reckoned by thousands, and wander over the vast rolling downs of the grassy hills—where a hundred acres of grain will ripen within one inclosure—where farms are from two to three thousand acres in extent, and where all the operations of agriculture seem to borrow a largeness from the scenery in which they are exercised, the villages are widely scattered, and their inhabitants are usually the laborers of the same employer, who holds the cottages in which they live as a necessary portion of his farm premises. The laborer, or "hind," as he is termed, is paid in a way somewhat different from that which is customary elsewhere. In money he only receives from four to six pounds, but the deficiency is made up to him in kind. The farmer provides him with the keep of a cow and the cultivation of a thousand yards of potatoes; "leads" or draws his coals for him at the price paid for them at the pit's mouth; gives him some wool at sheep-shearing time, and about fourteen bolls (84 bushels) of wheat, barley, oats, peas or beans, and furthermore gives him his house and stocked garden rent-free. On the whole, the yearly wages of the hind are found to be equivalent to from £35 to £40 of money; and, by the arrangement provided for him, he is made, to a certain extent, independent of shops and indifferent to the fluctuations of the corn market. But from his yearly total, a sum that is reckoned at about £10 has to be deducted to pay for the hire of the "bondager," one of the conditions being that he pay for an assistant. The farmer pays this help at the rate of eight and ten pence per day (from twenty to twenty-five cents), except in harvest, when it is doubled. The hind feeds the bondager. The hiring is generally for one year, and the agreement is termed the "bond." These hirings are generally made (in the case of women) at the statute fairs, at Christmas. These fairs are held in the principal market towns. The men and women wanting employment assemble there, and after the sheriff has opened the fair, they bargain. The large majority of the "bondagers" are women. Sometimes the "hind" has a daughter or a son old enough—but usually some young woman—of, as a writer on the subject pithily observes, "no particular home, and of less particular morals."

A friend furnished me the following description of life among this class, and my investigations convince me of its general accuracy. It will be noticed that the large farm system is, as in the case of the gangs above spoken of, responsible for the growth of this species of serfdom. Its subjects are fitly termed "bondagers":

"But it is not so much out of doors as in the hind's cottage that the evils of the bondage system flourish in full rankness. The cottage usually consists of one room, in which the whole family live by day and sleep by night. In many cases, this room is destitute of a back door, and of all out-buildings and offices. To sleep up stairs is considered 'uncanny;' and even in those rare instances in which a second sleeping room has been provided by the landlord, it has been found that it has been used as a store-room for odds and

ends, and that the family are unwilling to depart from their old habit of sleeping, promiscuously and gregariously, in their living room. Their beds are cupboards, divided into upper and lower strata, infinitely worse than the worst berths in the steerage of an ill-appointed emigrant ship.

"These box-beds are usually arranged against the wall facing the fire, and are seldom more than four in number. One is occupied by the hind and his wife; their children, divided rather according to age than to sex, fill two others; and the fourth is claimed by the bondager. Whether the ceremony of dressing and undressing ever takes place on retiring to or arising from these box-beds, and whether personal cleanliness penetrates into such a home, are points on which the imagination may speculate, but on which both the tongue and pen must preserve silence. The evils, however, to which such a state of things must give rise must be sufficiently apparent. It is notorious, that either from incapacity or unwillingness, the bondager never assists in housework or engages in domestic occupations. She considers herself merely to be engaged for outdoor labor, and when employment at that is deficient she remains in the house listlessly watching the busy doings of the wife, or wandering to a neighbor's to indulge in idle talk and scandal. The outdoor work of the bondager varies, of course with the seasons of the year; but turnip-hoeing enters largely into her duties. Since those Rob Roy days, when Sir Hildebrand Osbaldistone classed the new turnips with those French antics and Hanoverian rats, that, as he declared, had changed the world in old England, this particular root-crop has been largely cultivated in the strong soil and amid the humid atmosphere of the border country. And it is to the prevalent and increasing cultivation of turnips that the continuance of the bondage system is attributed. The defenders of the system, even those who recognize its many evils, allege that in their sparsely populated districts they cannot properly cultivate their land without the help of the bondagers; and that as they give their hind so many advantages, it is but right that he shoutd in part repay them, by always providing a laborer for the turnip-hoeing and other work. If the hind does not like the agreement, he is at liberty to please himself, and to look out elsewhere for other employment on different conditions; which he certainly will have to do, unless he can show to his master the young woman who is bound to him for the next twelvemonth as a bondager."

OTHER CLASSES OF FARM LABORERS.

There are other vagrant systems which largely influence agricul tural life here. Recently, in London, my attention was called to the large numbers of men and women who annually, at a date somewhat earlier than this, go by thousands in the neighboring counties of Kent and Sussex to work at "hop picking." The hop is cultivated largely. Most of the labor used in the final harvesting is of this vagrant character. These people generally live in and about

the metropolis. They form a portion of that class, estimated as high as 20,000, of whom it is said when they rise in the morning they do not know where to get a meal, or where they will lie at night. They make up the workhouse "casuals"—a character made familiar to American readers by Mr. Greenwood's "Lambeth Casual" paper. They are the bulk of petty thieves, &c., who, of course, infest the great city. They would work if they could get it. These people start in family groups "on a tramp," live on the road, sleep in barns or in the open air, when allowed to. It is not often they escape the vigilance of the rural police, who arrest them as vagrants when found so doing. There are hundreds of "padding keers"—low lodging houses, where one or two pence of straw bed can be obtained. The details of life in these dens are too disgusting for one's pen to chronicle. The character of these people may be more easily imagined than told. A large proportion are Irish. So there is at strawberry picking, pea gathering times. In the great market gardens around London, there is a large influx of similar classes.

Twenty years ago this kind of work was mainly done by Welsh girls, who made a business of leaving their homes for that purpose. It is said the Mormons have induced a great portion of this class to migrate to Utah. There is no doubt that amid such dense ignorance their missionary efforts are prosperous, and there is no doubt that their converts' condition is improved by the transfer. Then a large proportion of the harvest work on English farms is performed by migratory labor—by men on tramp, who make their livelihood in that way.

One cause of the intense panic Fenianism has created here, is an appreciation of the fact which begins dimly to appear among the "respectable" classes that the Irish preponderate greatly in all this migrative and presumedly dangerous population. Another idea begins to creep through the muddled brains of these coarse, well-fed John Bulls, and that is, that their own dangerous classes are on the increase. Their own selfish and monopolizing policy has sent nearly the entire agricultural population of Great Britain adrift, without a "settlement," as the phrase goes. With the evils of such a cruel system, there comes to the victim a keener sense of wrong done them, than under the old humdrum style. Even the stolid English farm laborer—the most ignorant of all working people I have met in civilized communities—begins to think: woe unto the patrician! woe unto the system! when this class moves. The reformers see they must move first or meet the deluge. R. J. H.

ART. IX—COLORED PEOPLE IN OLDEN TIMES.

We may well assume that the introduction of the African labor hands from the coast of Guinea, as well as the French West Indian Islands, continued with very little interruption in the colony of Louisiana during the whole time of the French domination, though rightly

speaking, we meet with very little information upon this subject in the historical annals, after the cessation of the great Mississippi Company's operations. It is true that the large indebtedness of the early planters towards this association for the African thus brought to the country, may have required a considerable lapse of time for its complete liquidation, and that during this interval the demand for more laborers of this description may have received some slackening; but upon the whole, there can have been no well founded stop to this then legitimate and profitable business, seeing that although many new white colonists thronged to the shores of the Mississippi, yet all then required the additional help of the sable race. However, we discover that by some official order the Louisiana planters were prohibited from making any acquisition of African slaves from other nations, the Spaniards or British, in the adjoining colonies; and therefore their purchases were confined to such raw subjects as were either conveyed direct from Africa by their national vessels, or received from St. Domingo, Martinique, or other French West Indian Islands. Those received direct from the slave coasts in Africa were mostly of two nations or tribes—the Congo and the Senegal negroes—both, when just out of their native wilds, called bossals, or uncivilized Africans. The former, or Congo negroes, were most esteemed for their fidelity and attachment to their masters; they were also reported much the most obedient and submissive race, though perhaps less account for intelligence than their compatriots of Senegal. The latter, both men as well as women, had the more regular features, were made of slender built, exceedingly intelligent faces, but said to be often taciturn and of a mischievous disposition. Of both of these tribes the present population are in greater measure the natural descendants, though much crossed and mixed by the various meddlings of the white, black and Indian bloods. When, after the first introduction of the blacks into Louisiana, a new state or condition of colonial family estate was spreading through the settlements, it may well be conjectured that this state added a new chapter to the exhortations which the reverend father, the Capuchin friars and Jesuits had been sent to address to the newly made converts to Christianity, as well as to the very lax colonists of white extraction, consisting mostly of Canadians, forest hunters, French soldiers and sailors, whose time being up had settled down upon some civil occupation, and any number of bold adventurers, prone to try their luck in the newly explored Delta.

By the correspondence kept up among the Catholic clergy, the only one then in existence under the French and Spanish rule, and more especially that carried on in the early times of this colony, we perceive that the irregular way of living in the connubial condition, though without any legal sanction or religious ceremony, between the white settlers and the Indian women, had called down incessant denunciations on the part of the missionaries and regular pastors or curés, in the few localities provided with these moral monitors; and that in consequence of these appeals to the better sense of the

community and the authorities, some formal prohibitions had been made against this state of indiscriminate amalgamation However, the great plea on the part of the colonial authorities for tolerating this illegal state of connubial living, was this: the total absence of the fair white sex; and this want being made known, the mother country did what we have seen in our own time, with respect to California under a similar state of things; that is, several enterprises were formed by which a number of decent and well-behaved females were sent to the colonies in order to serve as help-mates to any marriageably disposed cŏlonial bachelor. That the first colonists should have so readily taken as bosom companions the fair aborigines, cannot surprise us, when we see it stated by such truthful travelers as the Father Charlwain that the Southern or Louisiana Indian women were of much fairer complexion and slenderer form than those he had seen in the northern countries of the continent; hence we may infer that the southern climate and fair temperature of our latitude had had the uniform influence even upon these natural children of the forest. Another circumstance contributed, no doubt, to induce the new settlers to take to their homes, often but temporary huts, these untutored females of their forest hosts, and that was, the obedient and submissive character of these aborigines. With respect to greater economy and the less household expenses, there might also be found another reason for these illegitimate cohabitations, because we see it stated in one part of the historical accounts, that the legitimate spouses of the planters, that is, the white married ladies, were rather given to extravagance in the way of dresses, and that they brought their husbands considerably in debt to the French merchants for articles of luxury and Parisian fashions. It certainly must have been some rather hard disappointment for a new-made planter, just starting successfully with a fresh gang of negro hands, bought from the company's agent, to find that the help-mate, sent out to assist him in his new-made domestic establishment, should be rather inclined to lavish her attention upon Parisian fashions when surrounded by canebrakes and forests, than to his rural economy by domestic care.

In the course of time these illegitimate unions between the white colonist and the Indian women were no doubt solemnized in most instances, to confer a social status upon them; and their being no legal obstacle to these marriages, we may admit that any such admixture of Indian blood with the Caucasian was finally absorbed in the general or white complexion. It was not so, however, with respect to those illegitimate unions formed out of the cohabitation of whites and the Africans. Here we find a positive prohibition on the part of the mother country, interdicting any such marriages, not only with the colonial slave population, but also with the free colored sex. We therefore observe a constant vigilance exercised by the colonial authorities to circumscribe as much as possible a condition of things which could not be entirely eradicated. And from this state of affairs, which may be observed in all the other colonial

possessions of European powers, has arisen the present mixture of our Louisiana population, more especially in what may be called the old population of New Orleans and the ancient settlements in the country. In order, to give, however, some better oversight of this condition of our modern society in the Mississippi Delta, it may be necessary to enter into some more minute details of other population of unmixed origin or status; and this cannot be well considered without recurring to the very first beginning of the colonial establishment, and its progressive formation and gradual development.

C. D.

ART. X—UNMIXED RACES AND BREEDS.

When, in 1717, the Mississippi Association was formed in France, at the head of which figured, most conspicuously, the famous financier, John Law. It was then agreed to send, as new colonists to Louisiana, some ten thousand German cultivators or peasants. These people, who desired to emigrate from their country, the Palatinats, had offered themselves and were ready to embark with all their families, wives and children, as the Germans were wont of old, to these distant regions. The history of Louisiana contains the statement of several arrivals of part of this colossal enterprise of immigration, but we have not been able to ascertain the precise number of these people, who came over to our shores in whole families, and settled in various localities of the lower Delta, after having been expedited in the first instance to the post of Arkansas. Being left without victuals and tools for the new settlements, they came back from the upper stations, and were distributed throughout the colony, but most of them at the place above New Orleans called, in their honor, the German coast.

These people have continued to live as an unmixed race, being from the start formed of entire families, and when intermarrying with other nationalities, such as the Canadian, French, Acadians and Americans, always esteeming the assorting with white or Caucasian family ties an indispensable requisite.

The same, as a general rule, can be said of the descendants of the Acadians, who emigrated from Nova Scotia, or Acadia in the French vernacular, at the time of the British persecutions, in the wars against France, which ended in the conquest and cession of Canada, in 1759 and 1763. This nationality, of French origin, and mostly originally from the northern provinces of France, Brittany, Normandy, and the islands of the English channels, may also be accounted as an unmixed race in our Louisiana population, because not having been under the necessity of intermarrying with either the Indian nations, or taken to the illegitimate cohabitation with African descendants, for the lack of the female stock. Their posterity has followed in the one opened track, and consequently they remain nearly the same unadulterated people as a hundred years ago.

We now come to another stock of the original colonial population, who alo came over the ocean and settled in various localities of the Delta, in numerous family groupes. These are the descendants of those immigrants who, under the Spanish dominion, about the year 1780, and before, a famine had driven away from the Canary Islands and the Island of Malaga, and who, therefore, were generally designated by the Castillan appellation of *Islenos*, or Islanders. We cannot say from what European or Caucasian stock or nationality these people may have originally descended. If we are to judge from their outward complexion, which more or less is still preserved in their descendants, we would class them under the head of some European or Caucasian stock or origin; perhaps from the northern shores of the Mediterranean; though we have heart it said that they may even claim their ancestry from old Egypt or Phenicia. Be this as it may, their families, mostly intermarrying with each other, may also be esteemed of pure and unmixed descent, as a general rule, just as the Germans and Acadians, before mentioned.

Speaking, then, of the old colonial population, we cannot but name these three distinct nationalities as wholly unmixed and unadulterated, whilst all the others, of that epoch—the French, the Canadians, Spaniards and others—may be said to have mixed, more or less, with either the aboriginal stock of the country, the Indians, or even the illegitimate consanguinity of the African. This view, be it well understood, is taken in a general sense, admitting many honorable exceptional cases, with regard to all these nationalities—for it cannot be too much impressed that in this matter of matrimonial alliance, there always was a keen sense of supervision by the conservative instincts of the other sex. Among all the native population of Louisiana, and more particularly among the country people, marriages among the adults have always been in the early stages of life. From fifteen to twenty-five years has been the common time for forming these unions, when no unusual calamities have interposed for the prosecution of agricultural and industrial pursuits.

But having given so far an insight to or of the permanent preservation of the pure Caucasian origin of the old colonial stock, we now come to the consideration of a later period, and its influences upon the present state of our modern population, in town as well as in the country districts. It is, then, to be observed that from the time of the Spanish domination in Louisiana, that is, from about 1770,* but more particularly from 1783, after the successful war of independence by the United colonies, then assuming the name of the United States of America, there was a continual influx of American immigrants, first in single numbers, but afterwards in squads and whole families, which latter, it may well be said, carried with them the principle of unadulterated international marriages, or the preservation of the pure Caucasian stock. Since that time, that is,

* It is said that a considerable immigration from these colonies occurred during the Revolution, and formed settlements in the Florida parishes and elsewhere in Louisiana.

from the period of the cession of Louisiana to the Union in 1803, this stream of immigration of American families into our Delta, as well as the upper country parishes, has been continuous; and to this new element of family formation may be ascribed the present strict and stringent observance of the integrity of unmixed alliances in the matrimonial line.

The crowds of Germans, with their families, the Hibernians, Scots, Danes, and other north European nationalities have also greatly contributed in keeping up this principle of unadulterated family connexion; and if any more salient issue is to result from all the recent movements in the way of obliterating the lines of national traits or distinctions, it will be in that very observance of a much straighter and distinct line of demarcation between the pure Caucasian stock and whatever partakes of the more or less contaminated branches of the mixed race, or the African consanguinity. This tendency is unmistakable, and all our modern family associations are invariably directed in the same uniform channel of greater preservation of the pure Caucasian progeneration, and repulsive of all the darker hues of the African contamination.

Whilst this is the undoubted tendency of the pure white element of our society, we also think we can detect in the more intelligent part of the African population, a similar desire, to insist in their legitimate family formations, upon a like principle of unmixed marriage ties. These signs are, however, so far very feeble, which naturally arises from the very incipient condition of all their family relations, so far yet in a most hopelessly chaotic formation. Even amongst that portion of our colored population born free and educated, we cannot say that there is that same consideration for the sanctity of the family union as inculcated among the northern Caucasian nationalities; whilst in the masses of what may be called the newly civilized African elements, these family relations, although well impressed upon most of them by the teachings of religion, still seem to encounter unknown or invisible obstacles, which some attribute to the natural indomitable instincts of the uncultured breeds. We have seen that our Government, by the intervention of the Freedmen's Bureau, has undertaken the task of obligating these people to sanctify their marriage unions by some outward solemnity or token; but may not the agent be met, then, by some such valid objection, on the part of the *Vodoo* adorers, or the great Snake Association, that as long as polygamy is not prevented among the white race, (the Mormons,) so long may the African descendants be also allowed the rites and observances of the Black Congo Constrictor, or the *Vodoo* free love faith or interchanges? C. D.

ART. XI—MONTANA.

The rapid growth and precious productions of the newly opened regions of the upper Mississippi, demand the attention of our readers. During the war a large immigration set in to Montana and Idaho. We have seen the metallic products of that region set down at from sixteen to twenty millions of dollars, and this value is exchanged chiefly at St. Louis for the productions and importations of the Mississippi River.

When we remember that this vast and expanding region can best obtain tropical products by way of the Pacific Railroad and the port of New Orleans, it will be seen that we have a new commercial and political ally in the policy of development which we have advocated. For these reasons, and because so little is actually known of these upper regions of our trade area, we compile from the elaborate report of Mr. Ross Brown the following notice of Montana:

GEOGRAPHICAL FEATURES.

In this Territory the most striking geographical feature is the great range of the Rocky Mountains, extending 350 miles from its southern to its northern boundary, and in width over 200 miles. This range, with its spurs, occupies fully half the Territory. The main chain of mountains is split up into a number of different ranges, as the Bitter Root, which is the highest and the most westerly, and the Rocky, Wind River, Big Horn and Belt ranges. All of these have a trend northwest and southeast, and all contain mines of gold and silver. Their height has not been determined, but it is probably from 10,000 to 14,000 feet, the highest peak being covered with perpetual snow. This great extent of mountain ranges causes the condensation of a large amount of moisture from the atmosphere, which falls principally in the form of snow. Gradually melting during the warm season, it thoroughly saturates the earth, inducing a fine growth of grass and timber throughout the mountain regions. The Territory is divided by these ranges into a number of basins, and their spurs subdivide each basin into a number of valleys, which contain nearly all the towns and settlements, and the greater part of its agricultural as well as nearly all its mineral resources. The mountains are greatly abraded by the agencies of rains, frosts and glacial action, leaving them smooth and much less rocky and precipitous than the Cascade range in Oregon, or the Sierra Nevada in California. The Bitter Root is the most rugged and continuous in its height. The other ranges are full of low passes, with none of those lofty peaks that are found farther south, in Colorado. All the mountains appear to be old and weather-worn, and almost at the very summits of the highest ranges

beds of gravel containing placer gold have been formed from the disintegration of the neighboring peaks. Thus placer mines are found on the mountain top, differing in this respect from the Sierra Nevadas, where placer gold is almost invariably found in the foothills. In the northern part of the Territory the mountain regions have been prospected only sufficiently to prove the existence of gold. The hostility of the Indians has prevented a thorough exploration, or any thorough working of the mineral deposits.

CURIOUS MOUND IN DEER LODGE VALLEY.

The Deer Lodge Mound, in the upper end of the valley, is composed of silicious and ferruginous depositions, formed by a thermal spring. It is a truncated cone 30 feet in height, 100 feet in diameter at the base, and 30 feet at the summit. Brightly colored with white and reddish-brown spots, it forms a notable landmark. In the winter, when the steam rises like smoke from a spring at the top, it bears a striking resemblance to a large Indian lodge. This spring is three feet in diameter, and of a considerable depth. The water, which does not overflow at present, is nearly at the boiling point, while at the base of the mound several springs exist, the temperature of which varies from near the boiling point to icy coldness. A marsh elevated a few feet above the surrounding plains is formed by the springs at the base of the mound. Very few such formations, caused by thermal springs, are found in the Pacific Territories. Hence it must be different from the ordinary methods of deposition. From the fact that the spring in the center of the cone does not overflow, it is evident that in former times it must have been more active than at present, and that the forces that once gave it activity are failing; also, that unless there is a recurrence of its ancient eruptive power, the mound will never rise any higher. Probably it is lower than formerly. Ordinary theral springs throw quite a volume of water, which, gradually cooling, continues to deposit its sediment for a considerable distance, depositions not being materially greater at the mouth of the springs than 100 or 200 yards distant.

BEAUTIFUL SCENERY.

The scenery here is wonderfully picturesque. Spurs and broken chains of mountains, the lofty summits regularly dispersed, rise above and beyond one another, giving an idea of interminable distance. The rarity of the atmosphere consequent on the altitude causes the rays of light to be less strongly refracted than when the atmosphere is denser, giving a strange and unnatural reflection to every object. The light is peculiar in many respects. While it does not apparently impair vision, it seems to blend in all colors a portion of black. Thus, as the eye follows one mountain peak after another, the color becomes darker and darker, till the most distant are almost entirely black. The color of the snow, varied by increasing distance, goes through the same changes, and at last appears of

a dark gray. There are none of those wondrous changes of tints and shadows which are so charming in the lower latitudes as Mount Hood, whose snows from a hundred different points of observation never appear twice of the same color. Here every tint is sombre and rigid, and notwithstanding the beauty of the scenery, the mind is chilled with a feeling of awe. This is heightened by the appearance of the low hills, which are covered with grass, and have the aspect of fields once cultivated, but now permitted to return to a state of nature.

In the upper part of the valley, near the hot springs, the snow seldom lies on the ground, and there is an abundance of good pasturage the year round. A curious and interesting fact connected with this locality is worthy of note. From the head of this valley into Big Hole, or the valley of Divide Creek, a branch of Big Hole, is the lowest pass through the Rocky Mountains. In fact, it is simply a continuation of one valley into another. At Butte City, water is brought from the head of Boulder Creek, which is a tributary of the Missouri, through a low pass into Silver Bar, a branch of Deer Lodge Creek, thus taking the water from the Atlantic and giving it to the Pacific.

THE BANNOCK QUARTZ DISTRICT—THE FIRST STAMP MILL.

The first quartz veins worked in the Territory were in Bannock. Grasshopper Creek heads at the foot of a large smooth mountain, which abounds in veins containing gold, silver and copper. The creek then runs eastwardly through a basin, where its branches, concentrating, pass out through a limestone canyon. At the head of this canyon are quartz veins containing free gold. These veins are the source from which the placer mines on the creek were supplied. No gold is found above the veins. The croppings being prominent and conspicuous, were soon discovered, and quartz claims located.

In the winter of 1862–3, two men, named Allen and Arnold, put up the first quartz mill. It was entirely of home manufacture; the irons were obtained from old wagons and fashioned in a blacksmith shop; all the lumber used, except pine, fir and cottonwood, came from the same source. The mill had six stamps of 400 pounds each, and was driven by water. The men who built it ran it. In a financial point of view it was a success. The ores were from the discovery claim of the Dakota, and No. 6 of the same lode.

A number of mines in this vicinity were sold to parties in the Eastern States, who have expended considerable sums of money and erected several large and costly mills. In the fall of 1864 the first stamp mills commenced working at Bannock. They were only moderately successful in extracting the gold. The men who had charge were practically unacquainted with the business, and generally, as soon as they had learned to manage with more skill, they were superceded by others without experience, and the same process repeated. One furnace was erected which only ran a short time.

It is now being rebuilt. The probability is it will continue in operation as long as the ore are susceptible reduction more cheaply by smelting than by roasting and amalgamating. The mines of Bannock have produced a large amount of ore. With proper management they will continue to pay well. A captain, ignorant of his business, with a crew of landsmen, can manage a ship as well as a superintendent, unacquainted with mining, can manage a mine or mill with men unaccustomed to either. Sulphuret ores have been reached in some of the mines, which the mills will not be able to reduce without additional and proper machinery.

The Dakota was the first lode discovered, and has been worked most extensively, probably more than all other veins in the district. It is a large, irregular vein, distinctly traced on the surface for over a mile in length, and opened at six different points to a depth of 100 feet, and in one place to a depth of 320 feet. There is no doubt of its depth and permanency. It varies in thickness from three to eight feet; dips to the northeast; strike, northwest and southeast—the general dip and strike of the veins in this locality. It carries the oxidized ores to a great depth, containing free gold, easy of extraction. The Dakota was located under the old law, which only allowed 100 feet to a claim. Nearly every claim was held separately, which materially interfered with the proper opening and working of the mines. One tunnel has been driven 800 feet in a thorough and workmanlike manner. Some of the shafts are well constructed, but much of the work is poorly done and on a bad system, rendered necessary in part by the small size of the claims. Each company should own at least 1,000 feet, which would justify opening in a proper manner. The country rock enclosing the lodes is limestone, of a late geographical epoch, and rests unconformably upon syenits. No veins have been found in the syenites, and probably if they pass from the limestone into the syenites, they will be found to be impoverished.

ARGENTA DISTRICT—A MULTIPLICITY OF VEINS.

Argenta mining district lies north from Bannock, on the north bank of the Rattlesnake Creek. This district, although not large, contains a great number of veins. In no part of Montana yet explored have so many veins been found in so small a compass. On the creek a few small spots have been worked for placer gold. The quartz veins are in limestone, and generally resemble those at Bannock, only they contain more lead and iron.

SUMMIT DISTRICT.

The quartz veins in this district were the undoubted source of the gold in Alder Gulch. Several of them were discovered and located soon after the location of the placer mines in the gulch below. The first mill here, like the first at Bannock, was of Montana manufacture. A wagon supplied the iron; the choice lumber and the natural products of the district, with the labor of the builders, furnished all else.

It was a financial success, but as the ore was carefully selected, the yield was higher than has been obtained since. The mill was propelled by water; its capacity was three and a half tons per week. Since then many veins have been sold in the Eastern States, and a number of stamp mills erected, a few of which have been moderately successful. They only employ battery amalgamation, and pass the pulp over copper plates, which will not save as much gold as when iron pans or arastras are used. One mill has a great collection of costly mechanical curiosities, many novel and some obsolete. After a year's experience the operators still indulge in the anticipation of gratifying results. The method employed in these mills will not extract the gold from sulphuret ore. The mines contain a large amount of oxydized ore, which will eventually be exhausted, and the sulphuret ores will alone remain. Sulphurets constitute the main reliance for the future; and the working of any mill that cannot extract the gold from them will not be permanently profitable. The mills in operation in this district crush about a ton to the stamp in 24 hours. The cost of working in two mills was $6 50 to $7 per ton, respectively, while in another it was estimated at $3 25 per ton; these were stamp mills. In another, the cost was $25 per ton. The cost of the stamp mills was from $20,000 to $30,000 each, according to their capacity, which varied from 15 to 24 tons per day. The cost of one mill was $120,000, with a capacity of about 12 tons per day. Wood varies from $5 to $6 50 per cord; wages are from $6 to $9 per day. About twenty mines have been located and opened to some extent in the Summit district. Among the most celebrated are the Kearsarge, Oro, Cash, and Lucas.

HOT SPRINGS DISTRICT—LAVISH EXPENDITURE UPON MILLS.

A large amount of money has been expended in opening mines and building mills in this district. The mills cost from $30,000 to to $200,000, as estimated by men who have had good opportunities of obtaining correct information. The estimates may be too high, but it is certain the expenditures have been extravagant, compared with the capacity of the mills. There are three mills in the district, two of which are running; the other is nearly completed. The largest of these has forty stamps, twenty of which are running. Its capacity is twenty tons per day. The capacity of the others is less. The mill companies, in many instances, do not wish their results to be made public, as it might affect the price of their stock. In some cases, owing to the short time during which they have been running, no accurate estimates of the yield can be made. Within a year or two greater experience in working will result in something like a general average of profit at each mill. In the Cape Mill ore was worked from eighteen different veins, in amounts averaging from three to fifty tons. The average yield from all the veins was $20 per ton. It is claimed that the Posey mine pays $100 per ton, and has been opened to the depth of 200 feet. The George Atkins is opened 50 feet deep; thickness of vein one to three feet; strike

northeast and southwest; dip 45° to the northwest; works from $10 to $50 per ton. The country rock is granite. Bevins' Gulch, Granite Creek and Williams' Creek empty into Alder Gulch from the southwest, and have some gold and silver-bearing quartz veins. They prospect well. Being now worked, their value will soon be known. There are many gulches near Virginia, as the Norwegian, which is on the east side of the range, and empties into the Madison, like Meadow Creek and Flat Springs Creek; the California, Brandon, Ram's Horn gulches and Mill Creek, all contain veins that prospect well in gold at the surface, and many of them in silver and copper. When opened, no doubt some of them will become valuable mining localities.

HELENA MINES.

The Helena mines were discovered in September, 1864, at Dry Gulch. Soon after gold was found in Last Chance Gulch, and as the latter gulch contained water and prospected richer, it became the centre of mining operations. After Alder Gulch, this is the richest that has been worked in this Territory, and is yielding largely this season. The depth of these diggings ranges generally from ten to twenty feet. In some claims it is over forty feet from the surface to the bed-rock. Work has been almost exclusively confined to the bed of the gulch. On the western side of the Prickly Pear Valley, at and below the mouth of Dry Creek, and on both sides of Last Chance Gulch, there are hundreds of acres of shallow placers that will pay when water is introduced. Owing to a scarcity of water, Dry Gulch has not been very extensively worked. A supply has just been brought in by means of ditches from Ten-mile Creek, and the prospect is now more encouraging. Last Chance Gulch is formed by the junction of Grizzly and Oro Fino gulches, about half a mile above the town of Helena. Grizzly comes in from the south and Oro Fino from the north. Both have been worked extensively and profitably. The country rock near Helena is limestone and metamorphic slate; further up in the mountains granite prevails. A large number of gold-bearing quartz veins are found in it, from which it is evident the gulches below receive their gold. Nelson's Gulch, which heads in these granite mountains and runs into Ten-mile Creek, has been nearly as rich as Oro Fino or Grizzly gulches. South from these heads are a number of gulches running into Prickly Pear, which have paid well. The greatest obstacle that the miners encounter is the want of fall in the beds of the gulches. They are too flat; but the same method of fluming with steam machinery for removing the tailings from the flume, recommended for Alder Gulch, will be equally as efficacious here. The mines around Helena are supplied with water by a number of ditches, the actual cost of none exceeding $100,000. Small ditches usually are profitable; large ones seldom pay the cost of construction.

WHITLATCH UNION MINE.

The Whitlatch Union vein has been more fully opened than any other in Montana. Its strike is east-southeast and west northwest; dip 40° to the northward; thickness of vein from a seam to fifteen feet; average four feet; opened to the depth of 250 feet, and in a number of points inclines have been sunk to depths from 100 to 200 feet. It has been traced for a long distance on the surface, and several different companies are at work on it. The ore is worked with the greatest facility. Its average yield has been about $40 to the ton. One lot of 1000 tons yielded $60,000, or $60 per ton. The gross yield, so far, has been $250,000, as near as is known by the working of the differen mills.

COMSTOCK.

At Butte City resides Henry Comstock, famous as the discoverer of the Comstock lode, of Nevada, the discovery of which inaugurated the era of silver mining in the United States. Although a man of the strictest temperance, using no stimulant stronger than tea or coffee, and not even tobacco, years and the hardships and excitement incident to a frontier life are telling plainly on his faculties. In a conversation with him, he referred to his past career—especially his connection with the lode that bears his name. His intellect appears to wander, although his hand still retains its cunning. He is a skillful prospector, but his fading recollections carry cloudy images to his darkened understanding. He imagines he owns the whole Comstock lode, and the cities of Gold Hill and Virginia; but as he has no immediate use for them, he allows others to live in his houses; the people are poor, and it would be hard to turn them out, especially in the winter. This feeling of benevolence in the old man is really genuine, and one that he habitually practices. He has a small claim that pays little more than wages. If a poor miner comes along without means, he gives him an opportunity to work in the claim until the suffering stranger has the means to go on his journey. Recently an emigrant came along who was sick, and could work but little. Comstock and he worked together in the claim; the old man doing the most laborious part until the emigrant concluded to leave. Comstock then divided what was taken out, and seeing it was too small for a man to travel on, said: "Now, we will divide my half again, you will need it." He says that at times he thinks if the Government of the United States knew how he is situated, it would not let him suffer.

ALDER GULCH.

Alder Gulch rises in a spur of the Rocky Mountains, and runs north. It is from fifteen to seventeen miles in length, and empties into the Stinking Water, a branch of the Jefferson Fork of the Missouri river. It has many side gulches or tributaries, but none

of them except Spring and Bowers gulches, which are near its head, have any gold, or at least not sufficient to pay. The hills on each side are rounded off and covered with soil, presenting the soft outline of an agricultural country. The denuding effects of time have doubtless been of long continuance. A careful examination of the gulch will convince any one that the gold in it came from near the head, at its junction with the Bald Mountain. The gold at that point is coarse and rough, with portions of quartz adhering to it; further down the stream it becomes finer and brighter, showing unmistakable signs of having been worn by the action of water. Near the mouth it is excessively fine, and cannot be collected in a satisfactory manner except by the use of quicksilver. The gravel is very coarse and heavy high up the gulch, containing many boulders of a large size; further down it becomes worn away to small particles, and at the mouth only sand and very fine gravel are found. The country rock at or near the head is gneiss, and the same rock holds for a considerable distance; below it is replaced by micaceous slate. Near the head the rocks rise on each side in a very precipitous manner, forcing the gulch into a narrow cut or fissure, but below, at the distance of three or four miles, it widens out. The paying portions correspond in width to the bed of the stream, and are richest where the bed is narrowest. This gulch is a vast natural quartz mill and mine. Frost and atmospheric action loosen the quartz containing the gold, and throw it down, when the attrition caused by the current of water pulverizes and washes away the gangue, leaving the gold behind. This action, though very slow, extending back through countless ages, produces stupendous results.

The number of quartz veins found at the head of Alder Gulch, known to contain gold in sufficient quantities to add materially to its products, is not more than twenty, of which the average width is about two feet, and the average assay value about $10 per ton, estimating all the vein stuff between the walls. Alder Gulch has produced more gold than all the others, and probably more within the last three years than ever was taken in the same time from any gulch of the same extent. It is the opinion of those best qualified to judge, that within three years from the commencement of mining operations on this gulch, $30,000,000 were taken from it. This estimate may be exaggerated, but the amount taken out was certainly beyond precedent in Montana. The mines were discovered in the spring of 1863, and in eighteen months a population of 10,000 had gathered on the banks of the stream, building up four considerable cities, to wit: Nevada, Central, Virginia and Summit City. Virginia was built first, and occupying a central position, always maintained its supremacy. It is pleasantly located on the banks of Alder Gulch, and contains a number of fine stone buildings, consisting of banks, stores, markets, dwellings, etc. It supports two newspapers, and is one of the chief mining and commercial centres in Montana. Helena is its only rival. Although the first excitement incident to

the discovery of a new and rich mining district has passed away, and the mines most easily worked have already been worked over once, still the annual production is large. By proper working, as will be explained hereafter, the future production may be made equal to the past. It is the opinion of the best judges, as already stated, that $30,000,000 have been taken out of the gulch by the miners. This cannot be considered more than one-fourth of the amount that has come from the veins at the head of the gulch. Probably one-tenth would be nearer the amount, especially when we consider the extremely divisible nature of that metal and the facility with which minute particles are transported by water, a large portion of them being so small that it is impossible to collect them by any gold-saving process yet devised. Rating the amount already extracted at one-fourth, this would give $120,000,000 as the actual mineral value of the gulch. At $10 per ton this would require 12,000,000 tons of quarts to be reduced, provided all the gold in the rock is extracted. At thirteen feet to the ton a result of 156,000,000 cubic feet of quartz must be reduced to produce that amount of gold; equal to the product of twenty veins two feet thick, each a mile long and nearly 1000 feet deep. The general appearance of the country warrants the belief that the denudation is fully equal to 2000 feet. Bald Mountain, which stands at the head of the gulch, rises to the height of between 2000 and 3000 feet above the quartz veins at the head of mining operations. A great length of time must have elapsed since this denuding operation commenced, and it is still in action, and will continue until either man forestalls nature in extracting the gold from the veins, or some great upheaval changes the face of the country and causes the formation of a new set of watercourses. The country rock contains a large amount of mica. After a gentle shower the whole face of the earth is colored a fine bronze. The first mining district found on the gulch was Fairweather, called after one of the discoverers. Above this were Highland, Pine Grove and Summit, and below, Nevada and Junction, their locations extending from Fairweather district in the order in which they are named. Each had a code of laws almost identical with that of Fairweather. These laws have been subject to trifling changes, and generally have been very satisfactory in their operations. In the lower districts claims only come to the centre of the gulch, thus giving double the number that were held above; the same on the banks. Not far from 1000 claims are located in this manner, and it is remarkable that nearly every claim paid for working when wages were from $10 to $14 per day in gold. From many of the best claims $150,000, and from some as much as $200,000, have been taken out. The usual method of working was to sink a shaft fourteen or fifteen feet to the bed-rock, and extract the rich gravel, which was from one to three feet thick, by drifting. In this way a considerable amount of ground was left as pillars to support the ground above. The bed-rock cannot be worked with the care necessary to extract all the gold. When gold is very

abundant the miners become careless and do not work closely. This gulch was worked to a great extent by hired men, who are not as careful as the owners of the mine. In some of the deepest claims water retarded the working or prevented it entirely. Owing to these causes it is probable only about half the gold has been taken out that can be obtained by careful and thorough working. The object of each miner was to get as much gold as possible in the shortest time and depart for his home, expending only sufficient to defray the current expenses. The water in the gulch nearly sufficed the wants of the early miners. Up to this time only two small and inexpensive ditches have been constructed. It is proposed to bring water from the Jefferson or Stinking Water rivers. From the Jefferson a large amount could be brought in at the head of the gulch, but the cost would be great. From the Stinking Water the cost would be less, but the water could not reach the gulch by two or three miles, and the supply would be insufficient. Near the upper part of the gulch small flumes are in course of construction. They are disconnected and too short to be efficient. To work in the most economical and thorough manner requires a large flume from the mouth of the gulch, up to the head, with a large amount of water. The greatest obstacle to placer mining in Montana is the want of fall or descent, and this is particularly the case in Alder Gulch. To overcome this difficulty and keep the works in running order, it will be necessary to have the flume double at certain points, with a reservoir in each, so that when one reservoir is filled with sand and gravel, the water can be turned into the other flume while the first reservoir is emptied. This can be done by a steam paddy or other machinery. By having places for the sand to settle and be removed at two or three points along the flume, it can be kept in running order. By such a flume system and the use of hydraulics the gulch can be thoroughly worked, and its future production made at least equal to its past. This method of mining requires capital. The miners generally are employed by an individual or company, and the profits divided amongst few. The last working usually occupies about twice the length of time occupied by the first.

ART. XII—HOW THE ATLANTIC CABLE IS WORKED.

An exceedingly interesting lecture upon the Atlantic cable, its construction and operation, was given by Mr. Cromwell F. Varley, Electrician to the Atlantic Telegraph Cable Company, before the Royal Institution of Great Britain, a short time ago. The lecture was illustrated by the use of two artificial telegraph cables; one representing the Atlantic cable, the other a cable similar in size and length, but forty times slower in its action. The latter, therefore, represented a cable 13,000 miles long, such as would be needed to connect England with Australia. The artificial Atlantic cable was

composed of eleven fine wires, whose resistance, when taken together was equal to the real cable. The phenomena of electro-static induction in this artificial cable, were obtained by interposing large condensers between the resistance coils. The second cable included within its circuit eleven U tubes of glass, filled with a solution of zinc sulphate, two parts to ninety-eight of water. The metallic poles immersed in this solution were of amalgamated zinc; it having been demonstrated that electrodes like these are entirely free from polarization when immersed in the zinc sulphate solution. By simply turning a switch all the condensers could be detached from these tubes.

Between each pair of tubes was placed a galvanometer. These galvanometers were similar to the ordinary reflecting instruments used upon cables, except that the mirrors were polished lenses, instead of being plane glass; and the tubes in which the mirrors were placed had glass ends and were filled with pure water, which diminished the oscillations so that the needle came to rest in a fraction of a second. Each mirror had a diameter of half an inch, weighed with its magnet two grains, and was suspended with a triple filament of silk, one-sixteenth of an inch long.

It was, of course, impossible within the limits of a single lecture, to do more than touch upon a few of the very many interesting questions which suggested themselves in connection with this subject. On opening, the lecturer spoke of the skill displayed in the mechanical contrivances for manufacturing and laying the cable, and regretted that a more accurate description of them had not been published. He also alluded to the lecture of Sir William Thompson, delivered in that theatre not long before, upon the method employed for testing the insulation of the cable and also its conducting power. Mr. Varley then proceeded by calling the attention of the audience to the fact that while light and radiant heat traverse space with a definite velocity, this fact is not true of electricity. Luminous waves pass through space for millions upon millions of miles without varying in length. If, for example, the surface of Sirius could be suddenly veiled and thus concealed for ten minutes, its brilliancy, as seen at the distance of the earth, would suffer no diminution for twenty years, after which time its sudden disappearance for ten minutes would take place. Electricity, on the other hand, manifests itself at one end of the longest cable at the precise instant when it leaves the other, but with an intensity to feeble to be measured. At the end of a certain time, however, depending upon the cable itself, the quantity transmitted rapidly increases and approaches continually a limit which it never attains. Hence, to attribute to electricity a velocity as definite as that of light is a mistake. It becomes important, therefore, to define what is meant by the velocity of electricity; since if this be not done, a confusion is inevitable on account of the peculiar mode in which this force is transmitted. As just stated, whenever a current enters one end of a cable, signs of electricity appear instantly at the opposite end.

And reasoning from this, the velocity might be viewed as sensibly infinite. But the quantity transmitted increases gradually without ever reaching its maximum. A diagram, on which this curve of increase was plotted, the abscissas representing units of time of duration *a*, (the value of which depends upon the dimensions of the cable) and the ordinates the units of force of the current after it has traversed the cable, was employed to illustrate this point. And if *a* be allowed to represent the time at the end of which the transmitted current is one-thousandth of the battery current, then the curve shows that at the end of the time represented by 4*a*, the current has reached one-fourth of its maximum force; it attains one-half of this maximum at the end of the time 6*a*, and ninety-eight hundredths at 20*a*. By interrupting the connection with the battery after a certain time, and measuring the strength of the current, the distant end of the cable, a curve of decrease may be obtained. This curve shows that the decrease of the current is more rapid than its increase. Since, therefore, the decrease of the current is relatively gradual, care must be taken to allow one signal to be dissipated before sending a second. Two conditions are consequently required in a cable: First, its power of transmitting electricity must be at a maximum; and second, it must lose its charge as promptly as possible.

The present Atlantic cable is composed of seven copper wires imbedded in a layer of gutta percha and wood tar, and surrounded by four concentric envelopes of gutta percha, which forms the insulating medium. The use of seven wires increases greatly the flexibility of the cable, and so lessens the liability to rupture. The weight of this cable is as follows: copper 300 pounds, and gutta percha 400 pounds, to the nautical mile (2,029 yards).

The telegraph cable is a long Leyden jar, one coating of which is connected with the earth, the other with the source of electricity, and which receives a charge the instant it is made to communicate with the battery. After a short time this charge becomes definite, and then may be represented by the hypothenuse of a right-angled triangle, being greatest at the battery end and diminishing to zero at the end which is connected with the earth. When such a cable is immersed in the ocean, the copper conductor forms the interior coating, the gutta percha the insulator, and the water the exterior coating. The artificial cables used in the lecture had both their extremities connected with the earth. Upon depressing the signal key, a battery is introduced into the circuit between one end and the earth, and the current is set in motion. By employing two keys one of which unites the positive or copper pole with the cable, and the negative or zinc pole with the earth, and the other inverts this order, the current may be alternated at pleasure. A third key makes connection either with the battery or with a small Geissler's tube, which serves to show the discharge of the cable. Whenever one of the keys first mentioned is pressed down the current enters the cable; and, after surmounting the first resistance, may pur-

sue two routes; one through the first condenser, and the other through the resistance coils and the rest of the circuit. If ten galvanometers be distributed upon a long cable at equal distances, it may readily be shown that the instant the connection with the battery is made the current has much more force than after a few moments. The lecturer illustrated this fact by means of his long artificial cable. The ten galvanometers were placed one above the other, so that the ten images thrown from the mirrors upon the screen by the electrical light were in a vertical line. To assist the mind in fixing this progression of the wave, the galvanometers had names assigned them. The upper image represented England, the lower Australia, its antipodes. Between these extremes were the following nine stations: Gibraltar, Malta, Suez, Aden, Bombay, Calcutta, Rangoon, Singapore and Java. The upper station was not provided with a galvanometer, the current being so powerful there as to reverse the magnetism of the needle and vitiate the results. All the condensers of the cable were connected together and charged by communicating with a Daniell battery of 800 cells. The discharge was accompanied with a brilliant flash and a strong detonation.

The artificial Atlantic cable was first experimented with. The condensers were detached, a Geissler tube, whose resistance to the passage of the current was scarcely overcome by 400 Daniell cells, was inserted at the Newfoundland end to indicate the passage of the current there. When the current at this point attained to one-half the power of the whole battery, the tube was illuminated by its discharge. On introducing the condensers, the current did not appear in the tube until after three or four seconds; but now, when the battery connection was broken at the English end, the current continued to discharge itself at the Newfoundland end for several seconds. This experiment was varied by charging the cable till the maximum charge was attained as indicated by the Newfoundland tube; then on breaking connection at the English end and inserting a second Geissler tube in place of the battery, it was far more illuminated than the first one, thus demonstrating that the charge is greatest at the battery end of a cable. Moreover, the English tube continued bright for some seconds after the Newfoundland tube had ceased to shine.

The experiments with the second and longer cable were equally striking. The electric light thrown upon the screen from the mirrors of the ten galvanometers gave ten brilliant disks in a vertical line. When the signal key was depressed the image representing Gibraltar instantly responded by moving across the screen, six feet or more to the right, and Malta began to move. In a few seconds the force of the current had diminished perceptibly at Gibraltar, indicating that this part of the line began to be charged. The other disks followed each other successively to the right, and at the end of fourteen seconds the impulse had reached Australia, though its maximum effect there was not obtained for an entire

minute. Connection with the battery in England being now broken, and the end of the cable being put in communication with the earth, Gibraltar instantly moved to the left for an equal distance, thus showing a strong retrograde current. In this movement it was speedily followed by Malta, Suez and Aden. Bombay, however, returned only to the zero line, where it remained, the cable discharging itself impetuously through both extremities. Several minutes were required for this discharge to take place perfectly so as to allow the disks to return to their original positions, and permit a repetition of the experiment. Several signals were then sent through the cable consecutively at intervals of five seconds; but these waves were distinguishable only as far as Aden, beyond which they ran into each other and became confused.

The lecturer then referred to the various methods thus far employed for freeing the cable from these charges, after each signal. In 1853–4, he conceived the idea of sending a negative current after a positive one, a proceeding now generally adopted on submarine lines. In 1856 he invented another method, which consisted in sending a strong positive current, definite in force and duration, and then a feeble current, also positive, carrying the signal. This was quite a step forward. In 1858 Sir William Thompson proposed to employ three currents, equal in duration, but irregular in strength and alternate in direction. The use of this method increased still more the rapidity of transmission. In 1863, Mr. Varley found, by experiments upon his artificial cable, that a still further increase was attainable by sending in succession four or five currents, all of the same strength but variable in duration. For example, if five currents be sent as follows: first, a positive current, then a negative current of longer duration, a positive current much less in length, a negative current still shorter, and finally, a very short positive current, thus producing a series of positive and negative waves from one end of the line to the other, there will result at the Australian end of the cable a small and perfectly distinct positive wave, and the line will be left free of charge and ready for a new signal.

ART. XIII—DIAVOLO.

I trust no friend will be shocked because an humble acquaintance like myself presumes to rise, for a brief space, from obscurity, to act as champion for the Devil. Let me premise that I espouse the cause *con amore*. I assert, with confidence, that I have not been instigated thereto by any of the imps of darkness who, it is said, surround his satanic majesty; and if I carry out the diabolical intentions with which I begin this paper, I humbly hope the fact

will not be set down against me. It is done in that sense of justice which prompts a court to assign counsel to the worst criminal, lest society may do itself the wrong of inflicting a punishment from a natural prejudice, rather than on principle of unflexible equity. I am, therefore, no more responsible for saying the best for the arch fiend, which his indisputable wickedness will allow, than any other counsel for the prisoner, who may afterwards dine with the Judge. In this professional sense I proceed to "give the Devil his due," as is enjoined by the rigid and rather chivalrous sense of Anglo-Saxon justice.

I do not pretend to a more favored relationship nor a more confidential intercourse with Satan than that enjoyed by my fellow mortals; nor do I deem myself spurred on by any pressure, real or imaginary, from the prongs of a certain pitchfork which his excellency is vulgarly supposed to wield, at once as sceptre and instrument of torture. I do not feel even the most remote shadow of Erebus enfolding me as I write. The broad, glad light of day illumes the garret where I sit; there is a comfortable joy in the possession of life pervading my heart, and for the present, at least, I consider myself entirely untouched by the gloom of Hades, or the baleful influence of those who wander there.

Under these circumstances I cannot be accused, I think, of being possessed of a devil, merely because I am presumptuous enough to lift a lance in his cause. I regard him as an individual not properly appreciated by mankind in general, and any one in the habit of mingling much with the world cannot fail to be impressed with the contempt and obloquy it constantly pours forth upon this sulphurous potentate. He is singled out by high and low as the object upon which to expend their petty spite, and from the smart of a sore finger to the pain of a broken limb, they cry out upon the Devil most disrespectfully, and declare he is "in it," or tell him to "take it," with apparent disregard to his habit of dealing with things he gets into or takes off.

Young gentlemen use his name in conversation, nowadays, as glibly as though he were an intimate acquaintance, and old gentlemen have a genial habit of lugging him into their profound comments upon matters and things in general, exclaiming, "the Devil you did," or "the Devil you didn't," or "the Devil's to pay," in the most unctuous tones of well-fed complaisance. I have sometimes thought they kept the name rolling under their tongue constantly, as a chew of iniquity wherewith to spice and flavor their walk and conversation. As for little boys, they begin to lisp the word early, and feel they have taken one long stride toward manliness so soon as they can articulate, "*oh, the Devil*," without stuttering. Moreover, it is a common thing for individuals to be ordered peremptorily to "go to the Devil," who, all things considered, are not worthy to be consigned to such distinguished fellowship. I don't know why the Devil hasn't as good a right to choose his company as any of us. I have always imagined he did so. Still, no doubt a great many

thrust themselves upon his notice and force themselves into his domains, toward whom he feels a sovereign contempt, and who are held by him, in consequence. in very bad odor.

He appears to be the standard by which mankind most uncourteously guage all sorts of mundane meanness. Thus: they say such an one is "as cowardly as the Devil." Now, history has failed to impress me with the Devil's cowardice. In my study of his character, I have found less of this weakness about him than in most of his accusers; and, truth told, I suspect he would stand fire better than any of them!

Again: I heard one gentleman tell another, the other day, that an acquaintance of his was "as mean as the Devil." Now, this was downright slander. I chanced to know the individual in question; I considered the Devil insulted. He is incapable of the contemptible littleness which marks the character of this person, who hasn't spirit enough in his composition to serve for kindling wood; and as for honesty of purpose, "he couldn't hold a candle" to the Devil for that.

It is not an uncommon thing to hear of people who "swear like the Devil." It occurs to me, however, that those who make the comparison do great injustice to his infernal highness, who doubtless would not abase himself to so vulgar a practice, and has a taste above the acquirement of an accomplishment so vapid and senseless.

To "lie like the Devil" is another common remark, for which there is substantial authority, inasmuch as Holy Writ denounces him as "a liar and the father of lies."

To "drink like the Devil," however, as tipplers are said to do, is probably ascribing to him a vice to which he is no more addicted than he is to running for office or chewing tobacco.

If a man breaks down in business, and his friends fail him and the world ignores him, and prosperity eludes his grasp, what a common thing it is to hear that "he has gone to the Devil." I deem this a mistake. In all probability the Devil was never further from him, and the good angels never in closer proximty to his saddened heart. Misfortune is often but the rough husk which hides within the sweet kernel of real prosperity. Some guardian angel casts it down to us from the wonderful tree of good and evil. We groan and shudder as we see what has fallen to our lot; but when in our calm hours we accept it humbly, we are astonished as we count up all its benefits. There we may even find "the beauty of holiness" lifting its pure, meek face—hopes which never blest our hearts before—the golden key to the gateway of eternity, and power "to renounce the Devil and all his works."

We entertain, among other false views of him, an erroneous impression of the Devil's personal appearance. Common pictures and vulgar descriptions represent him as a ridiculous sort of horned man, with wings like a bat, a cloven foot, and the inevitable pitchfork in his hand. Apropos of this pronged sceptre, is it not prob-

able that in his hands this agricultural implement assumes an importance denied it with us? As the Devil is expected to "handle without gloves" all sorts of people, it is just possible that he retains enough of his pristine refinement to render this objectionable to his lingering sense of delicacy. *Ergo*, the fork furnishes a convenient projectile force wherewith he gives his numerous friends "a lift" into the hospitalities of the infernal regions.

His harvest is not supposed to be one which modern scientific improvements can much effect, and the primitive pitchfork retains a prestige in the warm meadows of Tartarus it has lost in the march of progress on this mundane sphere. In these days of political intrigue and rascality, he must particularly value its aid, as he has doubtless learned the meaning of the proverb which saith one cannot touch pitch without being defiled.

Again: Among the mimes and masks of the carnival, we are accustomed to behold a human form in black tights, swinging about a caudal appendage which would scarcely do credit to a yearling calf, while the agile movements of its possessor remind one much more of an African ape than of the majestic prince who rules the mysterious realm that borders on "the dark Plutonian shore."

If my memory serves me aright, it is Coleridge to whom we are indebted for the following grotesque image:

> "And pray, how was the Devil drest?
> Oh, he was in his Sunday best;
> His coat was black and his breeches blue,
> With a hole behind where his tail came through."

The author of "Ye Ancient Mariner" ought to be considered no despicable authority as to the appearance of the Prince of Darkness; still I don't see anything very appalling nor formidable in a fellow wearing a black coat and blue breeches—in fact, I shake hands with just such every day.

Very materially do these droll caricatures of the Devil differ from the portraits drawn of him by Milton:

> "Thus, Satan talking to his nearest mate,
> With head uplift above the wave, and eyes
> That sparkling blazed; his other parts besides
> Prone on the flood, extended long and large,
> Lay floating many a rood."

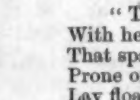
* * * * * *

Again:

> "He above the rest,
> In shape and gesture proudly eminent,
> Stood like a tower."

And still again:

> "On the other side, Satan, alarmed,
> Collecting all his might, dilated stood,
> Like Teneriff or Atlas, unremoved:
> His stature reached the sky, and on his crest
> Sat horror plumed; nor wanted in his grasp
> What seemed both spear and shield."



In these pictures we behold a majesty of mien, and a grandeur of proportion calculated to inspire awe, and hush the flippant indignities so constantly on the lips of those who invoke the Devil as readily as they would call for bread and cheese.

From the earliest ages, wherever there has been a God worshipped, there has been a Devil dreaded. Even on "India's coral strand," where the benighted devotee "bows down to wood and stone" with the worship of the idol, exists the recognition in some form or another of the power of evil—a power sacrificed to and propitiated, but I believe never derided, ridiculed nor despised. The scriptures give us no authority for treating the arch fiend with contumely. We are warned against him as a roaring lion who "walketh about seeking whom he may devour," and the numerous epithets bestowed upon him are rather those of dread and abhorrence than familiarity and contempt. The mind which acknowledges and recognizes the evil one as a tempter and destroyer, or, in vulgar parlance, "believes in the Devil," cannot fail to contemplate him with a certain degree of awe and respect. There is something grandly terrible about him as he presents himself to the imagination, armed with the seductive blandishment of sin, his gigantic stature clad in a mantle of darkness, his blazing eyes seeking out the hearts of the wicked, his subtle guidance tempting the innocent to embrace iniquity, inciting the reckless to crime, casting stumbling blocks in the path of the unwary, playing upon the evil passions of men as upon an instrument of many strings, and leading his victims at last in sad procession down to the nether deeps of his dark abode.

That such associations are not connected with him in the minds of the multitude is evident, otherwise he could never be regarded with the merry or mad indifference constantly manifested at the sound of his name, as it chimes in with the clink of wine glasses, at the festive board of Dives, and the clank of tools in the ordinary occupations of humbler characters. Their simple estimate of him seems to be all comprised in what Carlyle calls a few mouthsful of articulate wind. It is marvellous to note how much better a nail seems to clench sometimes when "the Devil!" in the shape of a hearty ejaculation, accompanies the finishing stroke; and obstinate wagon-wheels, how meekly do they roll out of ruts, when desperate Jehus apply "the Devil" as a lever to the offending rotator, while hack-horses, mules, and the whole catalogue of "dumb driven-things," must have well learned the sort of suasion that ascends upon them in the Devil's name.

The habit grows. Like all such habits, its growth is rapid. Time was when it was not considered proper to make free use of the Devil's name in the presence of ears polite. Nowadays very polite ears hear the word thumping on the tympanum at all times and on all occasions. It floats along the street in the clouds of cigar smoke, rides in public conveyances and meets one unexpectedly turning sharp corners. Young gentlemen, once upon a time were wont to muzzle the word and not let it run at large in the presence

of their ladye loves; in these latter days it slips out its leash occasionally, and the amiable and forgiving fair hearer punishes the offender only with a half reproachful glance, or a graceful blow with her feather fan.

And why not? Is it more than a simple act of justice to render fashionable society familiar with the name of one who, it is universally conceded, figures there so conspicuously, and whose influence is so plainly apparent? Only deal fairly with it, and not couple it with scandals its owner would not be guilty of; and, I repeat, why not? Is it not a most absurd affectation of scrupulousness to cavil at the practice? Shall not those who do so expose themselves to the shafts of ridicule and the charge of not being willing to "give the Devil his due?" A great deal of crime marks the daily annals of existence, and manages to escape the clutches of retribution. To press the fingers hard upon the white throat of Delicacy, and throttle her till she drops dead out of our natures, would probably not be considered in the light of a State's prison offence. Who would not be willing to risk the murder for the sake of the great advantage apparent in being able to use the name of the autocrat of Hades as that of a familiar and influential friend?

Even the *cuisine* begins to adapt this magic title to its choice productions, and from the culinary departments our palates are honored with *deviled crabs, deviled steaks, deviled oysters*, etc., etc.—a remarkable proof of how much his satanic majesty is the fashion. I am now looking anxiously to the barbers and hair-dressers, expecting from their ranks will spring a genius who will adorn society with a new *coiffure* to be known as *deviled hair*. Into the saloons of the dressmakers, too, must the choice appellation be expected to find its way, and we may soon hope to see trains *a la Diable*, and robes *a l'Apollyon*, with trimmings and gloves to match. Perhaps it is in anticipation of this state of things that we hear, now and then, of "a devilish pretty woman." It may strike one at first as a strange contradiction of terms, as applied to beaty, and woman's beauty at that; but an evident compliment is implied, and no doubt a little reflection would prove to which it belonged, the lady or the Devil.

Of course, the inordinate use of the Devil's name may be attributed, in a great degree, to the universal belief that there is no profanity in it. To a certain class of precise and well-intentioned gentlemen of the old school doubtless much comfort lies in the fact. Men who would not for worlds utter an oath outside of the courts of justice, and who would be shocked at the least semblance of profanity, manage to pucker their lips and pass out "*the Tee-fil*," in a compressed state, in excited moments, or roll it out roundly in Spanish, French, Latin or German, with delightful emphasis, proud to be able to relieve themselves without being guilty of a shadow of swearing. I don't really see how this class could get on at all without "the Devil." With them the expression seems to be the mere escape valve for all sorts of petty vexations and annoyances.

With others it is the volatile cork which pops out, and lets loose an overflowing measure of foaming, frothing, bubbling expletives and vituperations.

If the expression continues to gain ground, future grammarians will be obliged to add it to the list of interjections. What unprecedented favor may a book be expected to receive, which shall contain so elegant an addition to our vocabulary!

Our daughters will then perhaps utter it with their pretty ohs! and ahs! and as we offer them an arm to escort them to the drawing-room, the word will doubtless hop off from their rosy lips like a sprightly toad, in the midst of their sweetest smiles and salutations.

I do not consider myself authorized to say that all this is agreeable to the commander-in chief of the infernal forces, but I do assert that if he does deem it offensive, he treats it with a most commendable degree of dignity and silent contempt. At the same time it may be well for us not to crowd too near to the royal person, for if we tread on his toes, even the Devil may demand satisfaction.

Once in a great while, we hear some gentle voice declare that "the Devil is not so black as he is painted." I once, too, heard a minister pause in his sermon to announce to his congregation that when people slept in church, the Devil was rocking the cradle.

Can we not all admit that he has his good points? First, he prosecutes his mission with a zeal and singleness of purpose mortals would do well to emulate. Secondly, he asserts his rights, and maintains them. Thirdly, he minds his own business.

Moreover, to a certain extent, we are all under obligations to the Devil. He exerts over many a most wholesome influence, and I dare say that a large number "behave themselves," become good citizens and worthy members of society, not from an innate regard for excellence, nor an earnest and exalted love of goodness, but simply from a wholesome dread of him they so flippantly dub "*The Old Boy.*"

Again: where would have been Milton's fame and Dante's literary reputation, had it not been for Satan? For the beauties of "Paradise Lost" and the marvellous descriptions of the "Inferno," we are greatly indebted to the Devil; whilst the admirers of Faust will certainly admit that the glory of Göethé has acquired much additional lustre from "Mephistopheles." X.

ART. XIV—THE AGRICULTURAL AND COMMERCIAL CAPABILITIES OF HUNGARY.

[From a Report by Mr. Bonar, Her Majesty's Secretary of Embassy.]

At the moment when the eyes of Europe are being turned with absorbing interest towards the political state of Hungary, her recent resuscitation from the oblivion of so long a period, and the rich promise of future prosperity which may derive from the reforms

which her whole organization is now undergoing, it might seem especially fitting to inquire also into her capabilities as an agricultural and commercial State.

No country of Europe is, perhaps, less generally known, yet none is more deserving of notice than Hungary, on account of her extensive and fertile area, her fortunate geographical position, and the inexhaustible resources which but a few years of peace and wise management might suffice to develop into a produce tenfold its present amount and value.

Hungary is essentially an agricultural land, Its endless extent of rich soil, intersected more happily than in almost any other country, by numerous and some mighty rivers and other watercourses, fit it especially for the produce and export of grain and field fruits of every kind.

The grape grows abundantly and in great variety in several of its districts, and of excellent quality. Its produce of tobacco exceeds that of any other part of Europe. Its several ranges of hills abound in mineral wealth. Coal of rich quality is found in apparently inexhaustible veins. Its forest growth covers a boundless surface.

In consequence of the above special aptitude for the culture of the soil, industrial establishments have met hitherto with comparatively less favor in Hungary. But where iron and coal, and many articles of raw produce are abundant, industry and manufactures cannot long be wanting, and to the foreign merchant or capitalist, Hungary offers an endless field of enterprise.

I take from the Pesth Lloyd, a publication of much repute and accuracy on all affairs of Hungary, and especially in commercial and statistical matters, the following notices.

It is asserted that since the abolition of feudal rights, and the seigniorial dues, which, up to 1848, pressed so heavily, and under so varied forms, upon the land and its produce, the agricultural wealth of Hungary has nearly doubled in amount and value. Hungary has now acquired complete independence, and with henceforth her own special branches of administration for all internal concerns, (for justice, popular education, finances, commerce, public works, and agricultural,) it will, indeed, be her own fault alone, if she does not stride rapidly forward to a condition of unexampled prosperity.

The chief towns of Hungary, such as Pesth, Pressburgh, Szegedin, etc., count populations capable of a large consumption. Formerly, all necessary articles were furnished to her almost exclusively from or through Austria's Cisleithan provinces, creating an interchange or commerce of the value of 60,000,000 florins annually. That amount has now nearly doubled. Henceforth the commercial treaties of Austria with Great Britain, Germany, France, Italy and Belgium, open the markets of Hungary to the most active industries of Europe. But as it will be the aim of Hungary to pay for her many purchases, not in specie, but in kind—that is, by an exchange for them of her own produce—the following figures will not be uninter-

esting, as enabling us to form some opinion of her capabilities for so extensive a commerce.

Thirty years ago the produce of Hungary in grain of various kinds was said to be as follows:

	Hectolitres, say 2¾ bushels each.
Wheat	16,600,000
Rye	14,800,000
Barley	15,100,000
Oats	21,200,000
Maize	13,500,000
	81,200,000

That amount has now increased to upwards of 100,000,000.

In 1861 were exported cereals amounting to 3,500,000 hectolitres of wheat and 2,500,000 of other corn.

The fabrication of meal has acquired such development in Hungary of late, that her export of that article is now estimated 50,000,000 kilograms, and it is stated that she could furnish 300,000,000 if required.

A report, however, lately placed before the Emperor by the Hungarian Minister for Commerce and Agriculture for the year 1867, enables us, together with other official statistics, to exhibit the following picture of the actual productive power of Hungary.

CEREALS.

The total surface devoted to the cultivation of grain in Hungary and its dependencies amounts to 17,523,000 Hungarian acres, of which for—

	Per cent.
Wheat and rye	33
Barley, oats, maize	40
Tallow	27

And taking the average of the last years, we find the acre to yield 12½ metzen of wheat or rye, and 14 metzen of barley, oats or maize, (Indian corn.)

The exceptionally favorable harvest of 1867, however, has yielded no less than 16½ metzen of the former kind, and 20 metzen of the latter per acre.

The metzen may be reckoned as equal to 1-7 imperial bushel.

The produce, therefore, of the above cultivated surface would amount, for 1867, to—

	Metzen.
Wheat	70,000,000
Rye	25,000,000
Maise	55,000,000
Barley	28,000,000
Oats	51,000,000
Total	229,000,000

According to the Pesth Lloyd, the amount of grain brought to Pesth alone for exportation, during the months of July to November of last year, equalled—

	Metzen.	Representing a value of circa. Fl.	£
Wheat	1,885,000	11,310,000	1,131,000
Rye	369,000	1,476,000	147,600
Barley	198,000	594,000	59,400
Oats	122,000	200,000	20,000
Maize	50,000	200,000	20,000
Rape	522,000	3,132,000	313,200
Totals	3,146,000	16,912,000	1,691,200

And if the Pesth wharves represent 40 per cent. of the export of Hungary, we may reckon the total export of cereals at circa 8,000,000 metzen, at a value of 40,000,000 florins, or £4,000,000 sterling; whilst other accounts have estimated that export at from 12,000,000 to 15,000,000 metzen, and the value at 100,000,000 florins, or £10,000,000 sterling.

WINE.

The vine cultivation in Hungary (Proper) occupies an area of 504,776 acres.

Little, at least far too little, is known of the Hungarian wines out of Austria, excepting, perhaps, Tokay, and one or two other sorts. But there are many kinds that are undoubtedly of superior quality, and which, if they had the benefit of a more skillful and careful manipulation, would find a considerable market abroad, and compete with many of the favorite wines of France.

The following statement comprises the average number of acres under cultivation: produce in eimers, (80 bottles each,) and value in florins—504,776 acres, 17,667,160 eimers, equal to 4,200,000 hogsheads. Value, 70,668,640 florins, or £7,066,864.

WOOL.

The number of sheep in Hungary has been estimated at 12,000,000, and the yield of wool at 17,000,000 of kilograms.

TOBACCO.

Tobacco, it is well known, is largely cultivated in Hungary, occupying a surface of 60,000 or 70,000 hectares, and yielding an annual produce equal to 60,000,000 of kilograms.

But the sale of tobacco and cigars is a Government monopoly throughout the Austrian Empire, and during the first six months of 1867 produced a sum of 25,359,243 florins. In 1866, 24,197,558 florins. Increase in 1867, 1,161,685 florins.

In order to throw off the yoke of this monopoly, a statistician of Hungary has proposed the ingenius mode of making up for that amount to the State by the following direct impost levied on all smokers.

He estimates the smokers of Austria at the round numbers of 6,000,000, and proposes to tax:

	Florins.
100,000 at 50 florins yearly, equal to.....	5,000,000
400,000 at 25	10,000,000
500,000 at 10	5,000,000
1,000,000 at 4	4,000,000
2,000,000 at 3	6,000,009
2,000,000 at 2	4,000,000
6,000,000 smokers.....	34,000,000

How this scheme is relished by either Government or the smokers is not yet made known.

OILS AND OILSEEDS.

Linseed and rape are among the most considerable articles of produce in Hungary.

The yield of hemp is estimated at 45,000,000 of kilograms yearly, but it is not of the finest quality, and is chiefly employed for the manufacture of coarser ropes and cables.

FOREST LAND.

The forest growth of Hungary is said to cover 40 per cent. of the whole area of land, although in many parts again boundless plains extend not bearing a single leaf. The price of fuel naturally varies considerably in these various localities; in the plains it acquires a high price, whilst in the hillier and more wooded parts its cost falls to hardly anything, and timber is in a great proportion absolutely worthless from want of roads to render it capable of exportation. But Hungary produces woods of all kinds, and also of the finer qualities, and when the now projected railway communications are open, leading to the seaports, incalculable resources and wealth may be derived from those forest grounds.

MINERALS.

Great riches lie in the minerals of Hungary. Iron is abundant, and coal is found in many localities, in some, too, of admirable quality.

Where iron and coal are at hand, industrial establishments cannot fail to cover the land as soon as means of communication are provided to collect in the first instance the necessary raw materials, and subsequently as an outlet for the manufactured wares. Happily, the construction of the most important railways has already been determined upon, and the Hungarian Government are at this moment seeking to contract a considerable sum, to be applied exclusively to that purpose. It is to be hoped, therefore, that a network of roads and railways may soon be established throughout the country. For her means of exportation, Hungary is at present in a great measure restricted to her watercourses.

Notwithstanding these drawbacks, a notion may be formed of the producing power of Hungary by the following official statement of

the Hungarian Minister for Commerce and Agriculture, of the amount of exports, as regards some principal branches, during 1867:

Wheat	Cwt.	10,616,000
Rye	"	814,000
Oats	"	2,544,000
Other grain	"	2,457,000
Rape	"	639,000
Meal and flour	"	1,890,000
Tobacco	"	331,000
Wine	"	688,000
Wool	"	304,000
Timber	"	1,358,000
Live animals	No.	1,423,000

Yet the above figures represent only the amount of goods conveyed by railway or steamer. No returns are kept, nor can they be ascertained, of what passes by wheel into various parts of the Sisleithan provinces.

ART. XV—PROPOSED ROUTE FOR A SHIP CANAL.

On the Surveys of Proposed Lines for a Ship Canal between the Atlantic and Pacific Oceans. By DR. CULLEN.

[Continued from June Number.]

THE CHIRIQUI ROUTE.

This would lead from Chiriqui Lagoon, on the Atlantic, to Golfo Dolce, on the Pacific. The survey of the former by Captain (now Rear Admiral) Barnett, R. N., proves that the former is an excellent harbor. Of Golfo Dolce, Commander Jeffers, U. S. N., the hydrographer of the Chiriqui Commission of 1860, says: "It is unsurpassed in natural facilities; three streams, the Golfito, Coisal, and the Canaza, enter the harbor, and afford an ample supply of fresh water." This line was examined in 1848, by M. Hellert, a German traveler, who found that the supposed passage through the lofty range of mountains between the above ports presented the most formidable difficulties, and could in no way be considered practicable. In 1860 Lieutenant Morton, of the Chiriqui Commission, landed at Frenchman's Creek, in the lagoon, explored a swamp of great extent, and discovered a hitherto unknown pass through the Cordillera. His examination resulted in the conviction that "it is entirely practicable to connect the harbors by a line of *railroad*." However, considering that immediately inland of the lagoon the Cordillera presents the summits of Cerro Robalo, 7,012 feet high, the volcano of Chiriqui, 7,001, and another 7,452 feet high, it is not probable that any pass exists sufficiently low for a canal.

The isthmus of Chiriqui is traversed from north to south by coal seams, varying in quality from lignites to semi-bituminous and semi-anthracite coals, which were first examined by M. Salomons, Mr. Wheelwright, and Sir Edward Parry. Mr. W. W. Ridley, civil engineer, of New York, who visited the district afterwards, says: "Concerning the quantity of coal that can be obtained here, no doubt can be entertained that it is sufficient to supply the steamers on the Pacific for ages." Messrs. Shuman and Whiting, in their report, dated April 1, 1851, on the coal formation of the island of Muerto, near David, on the Pacific, say: "We have found the Muerto coal to burn equally as free as the very best English coal, emitting a bright, beautiful flame, with as much bitumen. Dr. Lagarde, the surgeon of the French frigate Obligado, which was sent to survey the Pacific coast of Veraguas,* brought specimens of the Muerto coal to Professor Rogers, of Pennsylvania, who, on analysis, found it to contain: bitumen, 36:27; solid carbon, 58·48; ashes, 5:25.

On the Atlantic side, Dr. Evans, the geologist of the Chiriqui Commission, found a coal field extending from Secretary and Saddle hills, at Cape Valiente, for fifty miles in a northwest direction, through Popa Island to the Changuinola river, in Chiriqui lagoon. Its breadth was from five to fourteen miles, and the aggregate thickness of the seam of coal was seventy-four feet. Dr. Evans deposited specimens in the Smithsonian Institution at Philadelphia. This coal field is now worked by English and American companies for the supply of the Pacific steamers. Some years ago a discovery was made at the village of Tarraba, in Costa Rica, of a bed of coal upwards of six miles in length and 150 feet in breadth. Dr. Evans also found in Chiriqui "gold, and ores of iron, copper and platinum."

Although the entire of this line, with the exception of the Pacific terminus, is included within the territory of New Granada, the Government of Costa Rica granted a privilege for making a road along it to Mr. Silk Buckingham. This gave rise to a controversy between A. Montoya, Vice-Consul of New Granada, and E. Wallerstein, Consul-General of Costa Rica, and the privilege became null and void.†

THE PANAMA LINE.

The Liberator, Simon Bolivar, President of the Republic of Colombia, gave a commission, dated Bogota, the 29th of November, 1827, to Captains John Augustus Lloyd and Maurice Falmark, officers of engineers in the Colombian service, to survey this route. Captain (afterwards Colonel) Lloyd's observations were published in the "Philosophical Transactions," and in vol. 1 of the "Journal of the Royal Geographical Society." In 1840, Mr. Wheelwright was com-

* De Rosencoat, Capitan, Reconnaissance Hydrographique, Dupont, Paris, 1857.

† Montoya, A., New Granada and Costa Rica Boundary Question, 1857.

missioned by the directors of the Pacific Steam Navigation Company to report upon the best means of opening a communication between the river Chagres and the Pacific; but his suggestions were not carried out.

In consequence of the representations made by M. Salomons, of Paris and Martinique, who obtained a privilege and concession, in 1826, and again in 1839, for constructing a canal by this route, and who was the promoter of the Franco-Granadian Company, Louis Philippe and M. Guizot gave orders in September, 1843, to M. Napoleon Garella to make a detailed survey of it. Garella, assisted by M. de Courtines and other engineers, made a survey of the country under the most favorable circumstances, having had the assistance of a French vessel of war and the support of Colonel Pineda, the Governor of Panama.

On concluding it, he submitted a plan for a canal of dimensions sufficient for the transit of sailing vessels of 1,200 tons only. He proposed to make it twenty-three feet deep, with locks forty-five feet six inches wide, and two hundred and eighteen feet between the aprons. Its width was to be sufficient to allow two vessels to pass freely, except at the summit, where there would be a tunnel.

He proposed to make a cut from Navy Bay to the Chagres, to partially follow the river to the junction of the Trinidad with it, and to complete the remaining distance by a canal along the valleys of the Bernardino and Caimito to the Pacific terminus at the little bay of Vacat del Monte, about 2½ miles east of the river Chorrero, and 12½ miles west of Panama. The direction of the line was nearly south-east, and its length 47½ miles,* of which nearly 42 would require to be canalized. The lowest summit level found was the Col de Ahogayegua, 459 feet,† at which height a sufficient supply of water could not be obtained. It was only by means of open trenches 1.65 feet deep and 62½ miles in length that he could convey water to a level of 135 feet. He therefore proposed to establish his summit level at 135 feet above high water of the Pacific for a distance of 25,361 feet, of which 17,750 feet, or 3⅓ miles, would be required to be tunneled. To this level he would rise by eighteen and descend to the Pacific by seventeen locks. The latter would be much crowded, as Ahogayegua‡ is only eight miles from the Pacific. The tunnel was to have been of height sufficient to allow a vesse of 1200 tons to traverse with her lower masts standing. The canal would require thirty-six locks and six acqueducts. He estimated that the work could be done for 12 francs per cubic metre, or 9 shillings per yard, and that the whole cost would be 105,455,442 francs

* Bief de Partage, 7,730 metres; Versant Sud, 13,450; Versans Nord, 55,360=76,540 metres.

† A much lower level was found afterwards, that of the Panama Railroad being only 287 feet; and a few years ago a summit level of only about 150 feet was found, thus substantiating the accuracy of the assertion made years before by Alphonse Morel.

‡ This Spanish word means "drown (or choke) the mare."

75 centimes. In this sum he included the tunnel, 5,330 metres in length, which would cost 6,700 francs per meter, or 35,845,000 francs, equal to £1,433,800. The construction of a pier or mole, 1,100 yards long, in Navy Bay, and the formation of an entrance basin in the bay of Vacat del Monte, would raise the expense to 125,000,000 francs, or about £5,000,000 sterling. Garella made another estimate for a canal of smaller size, with locks 170 feet long, 38 feet wide and 20 feet water, capable of admitting vessels of 600 tons, which amounted to about £3,600,00.

The necessity of excavating a tunnel 3½ miles in length, and the great number of locks required, were considered objectionable by the promoters; but the principal reasons which decided them to abandon the project were the insecurity of the anchorage on either coast, and the insurmountable obstacle presented by the sand-bank which extends from the shores of Panama Bay three miles out, and is high and dry at low water, except in the tortuous and impracticable channel of the Rio Grande. Vessels of even less than 300 tons have to lie two miles to seaward of Panama, and are obliged to discharge their cargoes into flat bottomed boats. If it were even possible to cut through this sand-bank, a single high tide might fill up the channel with sand again. Though the anchorage is generally safe, it has happened that all the ships lying there have been stranded; and all the vessels in Panama Bay were wrecked in a gale that blew with almost the force of a hurricane for twelve hours on the 17th of October, 1833. The houses at Chagres and Nicaragua were blown down by this gale. H. M. S. Comus quitted her anchorage at Chagres when the barometer was observed to be falling rapidly, and so escaped.

Navy Bay is still more objectionable as an anchorage, being open to winds from northeast to northwest, round by north, whilst hard northers are of frequent occurrence there. Great damage was caused by one on the 31st of December, 1854; and another which blew early in the morning of the 22d of November, 1862, destroyed the wharves, drove the R. M. S. Avon ashore, and wrecked every vessel at anchor, except the American steamer North Star and the R. M. S. Derwent, which left just in time.

Although the notion of cutting a canal by this line has long since been given up, Garella's admirable work,* in which a number of hydraulic problems are solved and minute calculations given, is a most valuable addition to our knowledge.

THE CHEPO LINE.

The line from the mouth of the Chepo or Bayano river, twenty-four miles east of Panama, to Mandinga or San Blas Bay, is the shortest between the two oceans. Mr. Wheelwright attempted to cross there in 1837, but was stopped by the Indians. In 1847, the

* Garella, M. Napoleon, Projet d'un Canal a travers l'Isthme de Panama. Cavilian-Gœury et Dalmont, 39, Quai des Augustins, Paris, 1845. Prix 10 francs.

late Mr. Evan Hopkins, M. E., who was employed by General Mosquera, then President of New Granada, to survey the route, endeavored to cross in company with Don Jose Marcellina Hurtado, of Panama, but they were driven back by the Indians, the chief of whom flogged a man who had accepted from them a present of a scarlet military coat. In 1849, the author visited the Chepo, but an examination of its entrance satisfied him that a canal there would be impracticable. More recently, Laurence Oliphant, Esq., ascended the river, and his observations were communicated in a paper read before the Royal Geographical Society, on the 24th of April, 1865. In 1864 a survey was made by Messrs. McDougal, Sweet, Forman and Rude, at the expense of F. M. Kelley, Esq., of New York. The line taken was up the Chepo to the Manomi, then along the valley of the latter to the Cordillera, and from its Pacific foot to the mouth of Mandinga river. The Chepo is a large river, navigable as far as Terable, a ruined fort, one mile above which the tide reaches. The total length of the line would be 30 030 miles. The lowest summit level is 1,500 feet. The length of tunnel required would be seven miles. The harbor on the Atlantic is safe, capacious and deep, and the survey shows that the channel leading from the Chepo to Panama Bay has not less than 18 feet water at mean low tide, whilst the ordinary rise of tide is 16 feet; but this result does not accord with the Admiralty chart.

The latitude of Chepillo Island, off the mouth of the Chepo, was found to be 8 deg. 59 min. 40 sec., and its longitude 79 deg. 7 min. 40 sec. High tide in San Blas Bay was 2½ feet.

It is not likely that the Darien Indians would quietly give up their sovereignty over the Atlantic portion of this territory, since their largest villages and the residence of their oldest chief are on the shores of Mandinga Bay, on the cays and islets in which they strike turtle, which is their principal occupation. In 1848, Colonel Hughes, of the United States Topographical Engineers, visited the bay in an American ship-of-war, and endeavored to obtain permission to cross the isthmus, but received a decided refusal.

The route by which Lionel Wafer crossed the Isthmus of Darien in 1681 was from the mouth of Congo river, in the Gulf of San Miguel, to the mouth of the Concepcion, 30 miles east of the Mandinga. His account of the stupendous mountains he crossed between the Chepo and the Atlantic shows the impossibility of making a canal communication in that direction.

The Chepo route follows the boundary line between the Isthmus of Panama and the Isthmus of Darien, which corresponds nearly to the meridian of 79° W.

THE ATRATO LINES.

At about 4° N. the Cordillera of New Granada bifurcates, one branch continuing northwards close to the Pacific, the other, after diverging a little to the eastward, re-assuming a northerly direction

under the name of the Cordillera of Choco, or of Antioquia, till it terminates on the eastern side of the Gulf of Uraba, or Darien. The two branches thus enclose a large oval space, reaching from about 4° to 8° N. latitude. This is divided into two unequal parts by spurs thrown out from either branch in 5° N., which separates the smaller and southern valley of the San Juan from the larger and northern valley of the Atrato. The Atrato valley is a great alluvial plain, separated from the Pacific by the Cordillera of the coast, and from the valley of the Cauca and the province of Antioquia by the Cordillera of Choco. It lies between the parallels of 5 deg. 26 min. and 8 deg. 5 min. north. It has a width of from 100 to 150 miles, a length of 159 miles and an area of 21,000 miles. Immediately under the surface of the plain is a stratum of firm clay and vegetable mould, overlying, at a depth varying from a few inches to several feet, the gold-bearing clay and gravel. This auriferous stratum, called *cascalho*, varies in thickness from 2 to 20 and even 50 feet. Branches and roots of trees abound in it, as also beds of leaves carbonized and resembling compact peat; and coal is said to exist in the Antioquian range. Through the valley flows the Atrato almost due north. It is formed by the confluence of the Quito and the Atrato, and in its course receives the Bebara, Murri, Pato, Andagueda, Napipi, Murindo, Sucio, Pavarando, Truando, Salaqui, Cacarica, Tumarador, and many other tributaries; and, after a course of 300 miles (following its sinuosities), empties itself by 13 bocas or mouths into the Bay of Candelaria in the Gulf of Darien. The great quantity of water in this river is owing to the fact that the clouds seldom pass over the Cordillera to the Pacific, but discharge themselves into the valley, thus maintaining an ample supply through all seasons of the year. Its banks are nowhere high, being principally levees or embankments formed from the sedimentary deposits brought down by the current and precipitated. In some places the surface of the water is above the land on either side. From its mouth to its source no rock has been discovered in the river, nor stone of any kind, except small detached pebbles, in any part of the valley. In the lower part of its course there is a level expanse thickly covered with mangroves (Avicennia nitidi and Rhizophora mangle), and inundated at high water. It may, indeed, be said that there is no shore for sixty miles above its mouth. Further inland are some gentle, rounded elevations and beyond them is the Cordillera on each side. At Quibdo,* the capital of the province of Choco, at the elevation of 75 feet above the level of the sea, from which it is 220 miles distant, its width is from 800 to 900 feet deep, and its average depth 9 feet; but during floods it rises to 15 and even 25 feet. The rate of fall from thence to the sea is only three inches in a mile. Below Quibdo it increases in width and depth, and is an immense river down to the point where it divides into the canos, or channels.

* Population in 1851, 8471, mostly negroes. It is a miserable town of mud huts built on swampy ground.

About fifteen miles above its mouth it winds round the base of the Lomitas, or hills of Cacarica, which are spurs of the Sierra de Maly, of Darien, that approach its left bank; and thereabouts are the river and lagoon of Cacarica, from which there may be an Indian trail asross the Cordillera into Darien. Immediately below the Cacarica mouth, but on the opposite or east bank, there is a hill named Loma de Pulgas,† which is formed by an accumulation of mud. Lower down, on the east bank also, there is another, 140 feet high, called Loma de Tumarador, at the mouth of the Tumarador river, just above the Delta.

About eight miles in a direct line from Candelaria Bay the Atrato divides into two channels; these dividing and subdividing, its waters find their way to the gulf through a submerged delta, densely covered with a tangled jungle of mangroves, between banks having no consistency and no soil visible. The canos, thirteen in number, are named from northwest to southeast, Tarena, Candelaria, Pavas, Barbacoas, Coquito, and Coco Grande (formed by the bifurcation of the Matuntuvo), Pantano, Pedrita, Pedro, Uraba, Urabacito, Pichindi, and Pichindicito. In front of them all a formidable sand-bank extends outwards, and the mouth of each is obstructed by a bar formed by the deposition of alluvial matter. Within the bar the depth averages 50 to 60 feet. The Tarena is the widest and deepest, and follows the general course of the main stream, running north, and and is thence called the Rio Madre, or Mother River. It averages 40 feet in depth and 500 yards in width, but the bar at its mouth is at times almost dry, and the gulf waves break heavily over it. At its separation from the Barbacoas it is 1550 feet in width. The latter is 80 yards wide. The Cano Coquito is the most practicable of the channels, but has only 6 to 12 feet of water for the distance of 4,546 yards above its mouth, and the latter has only from 2 to 4 feet of water on the bar. Dr. Halstead's boat grounded there, though it only drew 3½ feet of water. Its width, moreover, is very small, being only from 25 to 35 feet between the bushes at its sides, and in some spots only 15 feet. The mouth of this cano is called in the "Derrotero de las Antilas" (Madrid, 1817,) the Faisan Chico, and is thus noticed: "Of all the mouths the Faisan Chico offers the greatest advantages. This arm of the river has 3 feet of water on its bar, and the tides only rise 2 feet throughout the whole of the Gulf of Darien." In front of its mouth is a long, low island, called Islat de Muerto, or Dead Men's Island. The hull of the Stella and the boiler of a small steamer that was wrecked, were visible when Lieutenant Craven surveyed this mouth. In the Candelaria and Pavo channels, Trautwine and Halsted found only two feet of water at a quarter of a mile from the shore; and in the Matuntuvo only three feet. From the mouth of the Sucio, a tributary which rises in the Antioquian chain, and falls into the Atrato about seventy miles up, the current is three miles an hour. Near the head-waters there are rapids, and the current is seven miles an hour.

† Floas' Hill.

THE ATRATO AND SAN JUAN LINE.

This is the most southern and the longest line between the Atrato and the Pacific. Humboldt was told that, in 1788, that the curate of Novita, or Cithara, set his flock to work to dig a canal from the San Juan, at the village of San Pablo, to the sources of the Raspadura, which flows into the Quito, an affluent of the Atrato San Pablo is half way between Novita and Tado, and about forty miles north of Noanama. By this cut, called the Canal de la Raspadura, it was said that, when the rains were abundant, and the rivers overflowed their banks, an actual water communication existed between the two oceans, and the isthmus was separated from the continent of South America, so that canoes used to pass from one river to the other. But Mr. Trautwine and Dr. Mina B. Halsted, a young physician of New York, who surveyed the pass in 1853, learned, by inquiry at the spot, that the canal never was made, but that canoes had been dragged across. They examined the Santa Monica and the Raspadura, both of which rise in the same ridge and unite to form the Quito. The head of canoe navigation on the Santa Monica, which is the more practicable, was found to be 103 feet above the San Juan; and the lowest depression of the dividing ridge was ascertained to be 80 feet higher, or 183 feet above the San Juan. The breadth of the isthmus of San Pablo, as the ridge is called, is $3\frac{1}{4}$ miles. The distance from the Coquito mouth of the Atrota to Santa Monica is 281, thence to San Pablo, $3\frac{3}{4}$, and from San Pablo to Chirambira, at the mouth of the San Juan, 123 miles. The total distance would then be $407\frac{1}{4}$ miles. The elevation of the ridge above the sea was not ascertained, but it must be very considerable. Mr. J. C. Trautwine, C. E., (in his book entitled "Interoceanic Canal Route," Philadelphia, 1854,) reported that a canal by that line would be totally impracticable. It was afterwards surveyed by Mr. Porter and Mr. Lane, who gave the same opinion; and was also examined by Mr. Vincent, of Southwark, with the same result. Mr. Trautwine's book contains interesting views of the Cano Coquito, Quibdo,* San Pablo, Chirambira, and other places on

THE ATRATO, PATO AND BAUDO LINE.

At the distance of 237 miles above its mouth, the Atrato receives the Pato, the head of which is 30 miles above the confluence. From its head a pass of $1\frac{3}{4}$ miles, with a summit level of 365 feet above the ocean, leads to the Baudo, which, after a course of 80 miles, falls into the Pacific between Cape Corrientes and the mouth of the San Juan. Its length, $348\frac{3}{4}$ miles, is less than that of the San Juan route; but Mr. Lane, Mr. Porter and Mr. Trautwine, each of whom surveyed it separately, found that it had no other superiority over that line.

---

*Do or dor, in the language of the Choco Indians, like tee in that of the Darien Indians, signifies a river; thus, Quibdo means river of gravel; Murindo, of mud; Munguido, of mosquitoes.

THE ATRATO, NAPIPI AND CUPICA LINE.

About 150 miles above its mouth, the Atrato receives the Napipi, and 75 miles above the mouth of the latter, is the Tambo (shed) de Antado, which was erected by the Government of New Granada for the convenience of travelers. From thence a path leads over the hill, called Pié de Andé, to the Quebrada (rivulet) del Mar, which is the head of the Cupica, that falls into the Pacific, south of Cape Marzo. The distance from the Tombo to Cubica is 16 miles. The entire length of the line from sea to sea would, therefore, be about 241 miles. This route was first noticed in 1799, by Gogueneche, a Biscayan pilot, and was afterwards recommended by Humboldt. In January, 1820, Colonel Cancino, Captain (now General) Tomas Tipriano de Mosquera, Captain Joaquin Andrade, and Senor Deserein were conveyed from Bueventura to Cupica, in the Chilian frigate Andes, the commander of which, Captain Illingsworth, had a six-oared launch dragged across to the Napipi in ten hours, the crew cutting the bush as they advanced. The above officers and the doctor of the frigate then descended in her to the village of Murri, on the Atrato, whence, General Mosqura told the author, they drove away the Spaniards. This launch was in a shed at Quibdo when Captain Cochrane visited that place in 1824. An account of the above excursion was given on the 20th of May, 1834, in the "Reverberacion Mercantil del Atrato," a paper edited by Senor Cardenas, one of the victims who perished in the Amazon, on the 4th of January, 1852. Dr. Florentino Gonzales and Cardenas had received a concession for a canal by this route, and Eliot Warburton was going out with the latter to the Atrato mouth, where he erroneously supposed that the Scotch colony of Darien had been located.

In 1827, Lieutenant Charles Friend, R. N., crossed from the Napipi to Cupica and back, having ascended the Atrato in the little steamer Libertador. About the year 1843, Louis Philippe and Guizot sent J. F. Landreau, M. D., to examine and report upon this line; but, as Dr. Landreau went thence to the province of Esmeraldas, in Ecuador, where he discovered three mines of gold and one of platina, and settled, his report was, probably, unfavorable. In 1848, Commander Wood, of the Pandora, walked in a few hours from the Cupica to the Napipi and back. However, from the examination made by Don Juan de Dias Ulloa, a Granadian engineer, and the surveys afterwards made by Mr. Trautwine and Dr. Halsted, and then by Messrs. Kennish, Nelson, Rude and Dr. Jameson, it appears that the dividing ridge is of such an elevation (about 500 feet) and breadth, that a tunnel about 6½ miles in length would be necessary. Cupica Bay, moreover, is small, and only an open roadstead, and the obstacles presented by the bars and sandbanks at the mouths of the Atrato are most formidable. Mr. Trautwine estimated the cost of a canal by this line at $325,000,000.

THE ATRATO AND TRUANDO LINE.

In 1853, R. G. Jameson, M. D., of New York, explored the tract

of country between the Jurador and the Salaqui, but found the dividing ridge to be 1,063 feet high and 30 miles in width. Immediately afterwards he explored the country a little south of it, from the Atrato and Truando to the Paracuchichi. A survey of the latter route was then made in 1854, 1855 and 1856, by Messrs. Kennish, Nelson, Rude and Jameson, at the expense of F. M. Kelley, Esq., of New York, by whom their survey was published.*

In 1857, the United States Government sent the schooner Varina with a commission, consisting of Lieutenant T. Augustus Craven, U. S. N., hydrographer, Lieutenant (now Brigadier General) Nathaniel Michler, U. S. Topographical Engineers; John de la Camp, Esq., goedetic surveyor, W. H. W. Campbell, Esq., astronomer and meteorologist, Arthur Schott, Esq., botanist and geologist, Theodore Gill, Esq., zoologist, and a number of assistants, by whom, in seven months, a detailed survey of the line was made. Lieutenant Craven published his report separately.† The reports of the other gentlemen are bound together in a volume, which is decidedly the best survey that ever appeared in any part of Central America or the Isthmus.‡ It is accompanied by a large volume of plans§ of extraordinary accuracy and minuteness. In future, no engineer should undertake the examination of any part of the isthmus without having studied those two works.

Before this expedition went out, the author applied to Mr. Toucey, the Secretary of the Navy, requesting that the engineer might be commissioned to survey the Darien route, after he should have completed his examination of the Atrato line, and offered to go out, at his own expense, to join the expedition, for the purpose of acting as guide across Darien. But Mr. Toucey, in reply, stated that the survey would be limited to the Atrato line. He then forwarded a number of documents, containing information that might be useful, through Mr. Dallas, the American Minister, who, in a note to him, says: "These interesting and important documents will be forwarded by me to the United States by the steamer Asia, which leaves Liverpool to-morrow."

It may not be irrelevant to state that, before Messrs. Kennish, Nelson and Rude, who were Manx men and United States citizens, went on their first expedition to the Atrato, the author, being then on his way to Darien for the third time, met them at Carthagena, and informed them that the valley of the Atrato, from the source to

---

* Kelley, F. M., on the Junction of the Atlantic and Pacific, 1856.

† Craven, Lieutenant T. Augustus, U. S. N., Report to the Secretary of the Navy, Washington, 1858.

‡ Michler, Reports, Interoceanic Canal, Darien. Senate Ex. Doc. 9. 2nd Session, 36th Congress, U. S., 1861.

§ Do. do. Plates, 1861.

the mouth of the river, had been examined, in separate portions, by T. C. Vincent, Esq., of New Park street, Southwark, and Don Juan de Dios Ulloa, a Granadian engineer and native of Quibdo, that he also had examined the mouths of the Atrato and the Cordillera, south of Point Garachine, and that the result of their observations had led them all to the same conclusion, namely, that there was no practicable line for a ship canal between the Atrato and the Pacific. The same opinion had been expressed by Dr. Robert Key, a Scotchman, who had been a Surgeon-Major in San Martin's Army of Liberation in Peru, and had afterwards settled in Quibdo, where he resided for thirty years, practicing *por el amor de Dios*, and maintaining his family by bartering goods for gold-dust. Nevertheless, they sailed for the Atrato, and, on entering it, their vessel, the Stella, was wrecked in the Cano Coquito, where its hull was still visible in 1858. They returned to Carthagena to get another boat, and the author had the pleasure of spending many evenings in their company before he started for Darien.

The line surveyed was from the mouth of the Cano Coquito, up the Atrato due south, to the mouth of the Truando—75¼ miles—and up the latter, for a distance of 36 miles, to the confluence of the Nerqua, the course being southwest. The line then follows the valley of the Nerqua for 13 miles, to the foot of the falls of the Hingador. The latter descends from the dividing ridge by a series of cataracts, one of which is 130 feet in height and 40 feet in width. Here the scenery is superb and enchanting to the lover of the picturesque, but very depressing to the spirits of a canal projector, as, besides the great Salto, there are many smaller ones, of 20 feet *et infra*. The dividing ridge has an elevation of 947.44 feet abone the sea. This ridge and a little tableland being crossed, the sources of the Chuparador are reached, and, following down this river to the foot of the mountains, the line crosses the Chupipi, and then follows the Totumia to the Paracuchichi, which falls into the Pacific between Cape Marzo and Punta Ardita.

From a point about three miles above the mouth of Cano Coquito the Atrato is navigable for the largest vessels up to the confluence of the Truando with it. At Boca de Sucio, a little below that point, the height of the Atrato was found to be 25.73 feet above that of Cano Coquito. At the confluence, the Atrato is 350 yards wide and 50 feet deep. The Truando passes through an alluvial plain, and across two deep lagoons, before entering the Atrato. Its average depth is 14 feet; but near the junction of the Nerqua with it there are several falls. This river would require to be deepened for its whole length, and the falls should be avoided by a tunnel of 1,000 feet. From the tunnel a canal should be cut, on solid ground, along the valley of the Nerqua to the Hingador. From thence a tunnel, 12,250 feet, or about 2 1-3 miles, would be required. From the Pacific entrance of the tunnel, an open cut eight miles in length, to the mouth of the Paracuchichi, would complete the communication.

The line would then consist of—

	Miles.	Feet.
Navigation of the Atrato	75	1,320
" " Truando	36	.....
Tunnel	...	1,000
Canal	13	....
Tunnel	2	1,690
Canal	8	.....
	134	4,010

The following is the estimate of Lieutenant Michler and Mr. De la Camp, who gave all the calculations upon which it is based very minutely:

	Cubic yards.	At per cubic yard.	Cost in dollars.
Earth excavation	75,258,100	$ 33	24,835,173
Rock cutting	43,183,300	1 50	64,774,950
Tunnel	5,598,000	2 50	13,995,000
Total	104,049,400		103,605,123

Some other works bring the totals to 151,300,100 cubic yards of excavation and $134,450,154, or £28,010,448 15s. This estimate is very little higher than that given by Dr. Jameson, some years before, in a letter to the New York Herald.

CRAVEN'S REPORT.

So far for the engineering work. But the hydrographic survey, by Lieutenant Craven, shows that the subaqueous excavation would be by far the most difficult and expensive part of the work. The bar at the mouth of the Paracuchichi is dry at low water, and Kelley's Inlet, inside of it, has only a few feet of water. Humboldt's Bay, the Puerto Quemado of Pizarro, immediately south of the Paracuchichi, is an open roadstead. A harbor would therefore have to be made on the Pacific. But even more formidable difficulties occur at the mouth of the Atrato. The sand-bank off the mouth of the Cano Coquita should be removed. The bar at its mouth, one mile in length, should be dredged from a depth of three or four feet to that of thirty feet. Its channel should be deepened for the length of 4546 yards, from the bar up, from an average depth of nine to that of thirty feet. The difficulty of these operations would be greatly enhanced by their peculiar unhealthiness; for it is well known that the most deadly work in the tropics is the disturbance of mud in places where fresh and salt water meet. Even the negroes of Demerara, Essequiblo and Berbice, which are the lowest swamps in the world—the emboldered or trenched and damed land of the plantations being several feet below the level of the sea—would not stand it. They dread, above all things, the job of moving the drift-mud that sometimes blocks up the Kokert doors, through which the surplus water of the canals is let off at low water—and with good reason—for they generally get the ague after it.

The following letter gives the results of Lieutenent Craven's survey :

"Bound Brook, New Jersey, Aug. 3, 1858.

"*Dear Sir*—I received your communication of January, while on my return from the Atrato. I arrived in the United States early in May, have made a thorough examination of the route by the Atrato, Truando, Nerqua, and Totumia rivers. The entire distance across is 134 miles, which I twice traversed with the parties under my command. My preliminary report was made to the United States' Senate on the 17th of May, and has appeared in our papers generally. I suppose, therefore, you have seen it. I do not say that the construction of the canal is an impossibility; but its cost will be immensely beyond the views of this age. My detailed report is not made out, but I believe that my estimates will reach some $500,000,000, with fifty years of labor. In a matter of such consequence to the world, it is very important that a practicable route be discovered. If nothing better offer, we must cut through the Isthmus at Panama.

"Yours truly,

"T. Augustus Craven.

"Dr. Cullen, 302, Strand, London."

The author saw Craven afterwards on board the United States frigate Tuscarora, of which he was captain, and in which, it is deeply to be regretted, he was lost, and he said that the idea of opening a canal by way of the Atrato had been abandoned.

GEOLOGY.

The table land at the summit of the ridge is composed of trappean or metamorphosed schistose rock, covered by broken secondary and tertiary strata. The Divide is composed of alluvion underlaid with recent layers of loam, sand, semi-rock and conglomerate. At the foot of the great fall of the Hingador there are thermal springs; and in the valley of the Nerqua, there is one of the temperature of 101° F.

BOTANY.

The principal palms are known by the native names of Milpesos (1000 dollars), Chontaduro, Pihiguai, Tipihapa (of which the Panama hats are made), Palmiche, Coroso, Puertorico, Quitasol, Palma Amarga and Murapo. They appear to belong to the genera Bactris, Martinesia, Areca, Aiphanes, and Carludovica. There is a bread-fruit tree called Membrillo, which probably belongs to the order of Lecythidaceæ.

The greater part of the region of the lagoons is covered with a thick gramineous vegetation, interspersed with water plants, mostly Alismaceæ, Polygonaceæ, Pontederiaceæ, &c., &c. Gramilote (Panicum glaucum) is abundant, and is the favorite food of the manati, or sea-cow.

Lichens, Jungermanniaceæ, Lycopodiaceæ, and a whole host of parasitic suckers in the shape of Orchidaceæ, Bromeliaceæ, Filices, Aroideæ, &c., overspread the district. Amongst the trees are the water-loving Cecropia peltata, which bears the vernacular name of Guarumo; an Inga with eatable pods (Guamo); a mimomaceous tree with a graceful umbellate crown, and the Trementin, a grave forester with a conical base, whose trunk does not send off any branches until it reaches 80 or 100 feet in height.

ZOOLOGY.

Mr. Gill mentions, among the Gnawers, the Cavybara, the Agouti, and several species of the Sciurdæ; amongst the birds, several species of Scansores, Rasores, Columbidæ, Conirostres and Grallatoros. Of the fishes he has written at very great length.

POPULATION.

This is very small indeed. The Truando is totally uninhabited. On the Nerqua, a mulatto named Domingo, and two or three families were the only inhabitants. There they met an Indian family traveling, and there is from thence an Indian trail across the Cordillera. On the Chopipi there are a few families; and at Paracuchichi mouth there are twelve houses inhabited by samboes and negroes from Panama, and a few Jamaica men, who are described as ex-pirates, thieves, wreckers and sharpers. They demanded most exorbitant prices for conveying the baggage of the expedition across the Cordillera. Some of those people make trips in bongos to Panama, which is 165 miles northwest. They generally call in on the way at Garachiné village, 80 miles distant. This population had been only ten years settled there. With the exception of a few families at the mouth of the Jurador, the above are the only inhabitants in a country which was formerly called Biruquete, and is the most southern part of Darien, extending from Garachiné Point to Cape Marzo, and from the Cordillera to the Pacific. About twenty years ago it constituted a district under a corregidor, and was called the corregimiento of Jurador, but of late it has been entirely neglected. It used to be the resort of Cimarrones, or runaway slaves, and fugitive criminals from Panama. It was this coast that Pizarro visited when searching for Peru, and it was from the wrong application of the name of the Biru (called by Pizarro Rio de Hambre, or River of Famine, and now Rio Jurador,) that the name Peru was derived. On the Biru was the village, the inhabitants of which he called Pueblo Quemado, or burnt people. The Biru had been visited some time before by Vasco Nunez, and then by Andagoya, and Almagro called there in pursuit of Pizarro.

ASTRONOMICAL BASES.

The following are the principal points of which Mr. Campbell fixed the positions:

	Lat. North.			Long. West.		
Turbo, on the east side of the Gulf of Darien, nearly due east of Cano Coquito	8 deg.	4 min.	56.2 sec.	76 deg.	41 min.	50.7 sec.
Boca de Sucio, a little below the Truando mouth.	7	26	16.6	77	5	40.5
Paracuchichi mouth	7	2	59.6	77	40	25.35

TEMPERATURE.

The thermometer, during December, 1857, ranged from 79° to 83° from sunrise to sunset.

[To be continued.]

ART. XVI—"THE GREAT METALLURGICAL PROBLEM OF OUR TIME,"

It has been written, "is, how to convert imperfect iron into iron in its best form, which," it is added, "is that of steel." With intense eagerness our leading ironworkers, chemists and engineers, are pursuing their investigations into this subject. The interest in it throughout the iron-making world of Great Britain is all-absorbing. We have, therefore, taken those steps which enable us to sketch the leading features of the question as it now stands. By a personal visit, we have made ourselves familiar with what is being done where the chemical process is in practical operation, and where the products are goods sold in the markets open for such mercantile commodities.

That the value of the much-contested method may be understood by contrast, attention should be briefly called to what took place soon after the reading by Mr. Bessemer of his famous Cheltenham paper. Amongst the gentlemen who were present in London, by invitation of Mr. Bessemer, and who witnessed the comparative failure at that time of the process, even with Blaenavon iron, was a maker of pigs in South Staffordshire, who was curious to know what would be the result of the use of iron, of the class smelted by the majority of the ironmasters present, if no more satisfactory issue than the making of scull-iron followed upon the treating of the best cold-blast pigs. He should, in particular, like to learn what would be the result upon iron of the most inferior character? With a view to the solving of the query, he had some pigs sent to Mr. Bessemer, which had been made with as large a proportion of tap-cinder in them as could at that time be used. The result of the Bessemer process upon this iron was not to produce steel, or even scull-iron, but simply to produce a magnificent display of sparks, in which the whole bulk disappeared.

Mr. Bessemer and Mr. Longsden, however, continued at work, and in two or three years, assisted by the use of spiegeleisen and the lapsing of Mr. Mushet's manganese patents, the process came again before the public. It was received with coldness, and by

becoming a manufacturer of steel himself, Mr. Bessemer had to demonstrate the worth of his invention. Enabled, now, to introduce the requisite amount of carbon into his blown iron, Mr. Bessemer succeeded in making useful steel, not from Blaenavon and other cold-blast irons alone, but also from the hot-blast hematites now made in abundance in the North Lancashire and the West Cumberland districts. But even with spiegeleisen, or a pure alloy of iron and manganese, Mr. Bessemer, as is well known, has not yet succeeded in producing a workable steel from any iron inferion in quality to the hot-blast hematites just mentioned.

On every hand, however, it is desired that the great abundance of our poorer ores should be utilized in the making of steel. It is felt that the wants of the few only have been supplied, whilst the many are still unprovided for. In the discussion which followed the reading of his paper, "On the Manufacture of Cast Steel: its progress and Employment as a Substitute for Wrought Iron," at the meeting of the British Association in Birmingham, Mr. Bessemer himself remarked that "there was still a large gap, a fine field of discovery for many a clever man for years to come;" and clever men are entering this fine field in great numbers. Chief amongst them is Mr. Heaton, who, at this juncture in the history of mechanico-chemical steel-making, is playing a very important part. Up to this period, the difficulty which chemists had to contend with in treating molten iron with chemicals, was due to the minute specific gravity of the converting substances, as compared with the molten iron. They had not devised any available means for keeping them in a position in regard to the fused mass by which the gases evolved from the chemicals should be prevented from rising to the surface, and spending their energies upon the surrounding atmosphere instead of upon the iron. Mr. Heaton, however, being an engineer as well as a chemist, hit upon the ingenious plan of confining the chemicals at the bottom by covering them with a perforated iron plate, held down by the over-hanging edges of brickwork, judiciously placed near the bottom of his converter. Thus, Mr. Heaton became the first of the many experimenters with soda who developed the method, so as to make it practicable in a commercial sense, for he is carrying it out at the Langley Steel and Iron Mills, near Nottingham, of which he is the managing director. We have visited these works, and after seeing how the soda system is making sheet-iron and steel of the first quality—as, indeed, was shown in the samples which we inspected, exhibited at the last quarterly meeting of the Cleveland ironmasters—we confess to much sympathy with Mr. Hargreaves, who, after the reading of Mr. Gjers's paper, showed a piece of excellent steel, made by the method which Mr. Gjers condemned, and, quoting the hacknied remark of the French theorist said, "So much the worse for the facts."

At Langley Mills, the perforated plate, held down as we have described, confines the chemical materials below the mass of molten iron, and obliges the evolved gases, by which the conversion has to

be produced, to effectually perform all the work of which they are capable. In this way, steel has been produced, not alone from the best descriptions of iron, equal to Blaenavon, and from the hema tites which are used in the Bessemer process, but also, and chiefly from iron made out of the clayband stones. And even a very superior description of refined metal, only a trifle inferior to the best steel, has been manufactured by Mr. Heaton exclusively from the tap-cinder iron, which, it will be remembered, Mr. Bessemer's process reduced simply to sparks. A specimen of such metal is held by the firm by whom the tap-cinder iron was sent to Mr. Bessemer, and, makers of steel themselves, they have pronounced upon it as we have here mentioned.

Looking, therefore, at the respective capabilities of the Bessemer and the Heaton methods to make steel of the great bulk of iron ores, we cannot but think that the latter seems the most likely to possess the qualities which, perfected, will bring about the desired result. The purely chemical arrangement, although at present limited in its development, we believe to be scientifically much in the van. For any chemical combination, so wide in its capability of application as to produce such results on inferior irons—irons that cannot be used in the Bessemer process—necessarily give the resulting methods of manufacture that position.

The great defect in the manipulation of the soda process, charged against it by its adverse critics, is, that it cannot be regulated when once the converter has been set on. Neither Mr. Heaton, however, nor Mr. Hargreaves, regard this as a dificulty of practical moment, for the quantity of carbon usually found in specific brands of pig-iron being ascertained, the nitrate is used in proportion.

The specimens shown by the Langley Mills Company, at Middlesborough, all made by Mr. Heaton's process, from Middlesborough iron, must have convinced the most skeptical that "the great metallurgical problem of our time" is on the eve of being solved; and and our visit to Langley Mill has confirmed our own expectation. There the company with whom Mr. Heaton is associated have expended a large amount of capital in the laying out, under Mr. Heaton's supervision, much of upwards of four acres of ground, with all the appliances necessary to the carrying out of his method upon a scale which will enable them to manipulate, by rolling and forging, some 600 tons of steel and steel iron a week. They can convert that quantity with their present machinery, but they cannot complete much over sixty tons. Their preparations embrace two departments—the one the reverberatory, and the other the casting; the latter will embrace more than forty crucible furnaces. The conversion of the pig-iron into refined metal occupies from three to seven minutes only, and instead of the lapse of nearly five weeks being necessary to produce crucible steel, it can be made in a few hours. A forging of crucible steel, which was in the state of pig-iron at 11 o'clock in the forenoon, was, a few weeks ago, carried away by a party of visitors, who left Langley Mill at 4 o'clock in

the afternoon. Rolled steel could be produced in even a shorter time, for the puddler is altogether dispensed with, and the ball furnace alone used for purifying the metal of the sodium left in it after the converter has done its work.

Mr. Heaton frankly confessed to us that his method has not yet been got to that perfection which will enable him to cast ingots direct from the converter, but in dispensing with the puddler, he has conferred an enormous boon upon the iron trade.

The conclusion at which, by our visit, we have arrived, is, that though not perfect, yet the system is capable of wide adaptation; and we hope that the inventor's terms for its use will encourage experiments with it by the makers of the poorer pigs, who, we know, are waiting eagerly for an opportunity to turn their property to an account, of which they believe Mr. Heaton has shown it to be capable.—[*Morgans' British Trade Journal.*

ART. XVII—OUR NATIONAL SCHOOLS OF SCIENCE.

Six years ago Hon. J. S. Morrill, then a representative and now a Senator from the State of Vermont, secured the passage of an act in Congress by which a very large portion of the public domain was set apart for the establishment or encouragement of scientific schools in the several States of the Union. The particular mode in which this grant should be applied was wisely left to the people of each State, certain general restrictions and conditions being imposed by Congress. For example, no part of the public grant could be devoted to the purchase or erection of buildings; and whatever form the new institutions might assume, they must have a definite reference to "the liberal and practical education of the industrial classes." On the other hand, each State or each institution could determine for itself a course of study, the conditions of admission, the expediency of purchasing a farm, or a workshop, and the advantage of connection with or severance from the literary colleges already in existence.

A popular error has unfortunately governed very much of the legislation, and still more of the discussions pertaining to these national institutions. It has been supposed by many that the appropriation was secured for the exclusive encouragement of agriculture, and that the act was significantly entitled the "Agricultural College Act." The truth is, that the mechanic arts, in all their variety and comprehensiveness, were included in the terms of the bill just as much as agriculture, and in fact, every application of mathematical, physical or natural science to the wants of man should rightly be comprised among the studies to be taught in these new colleges, not even, as the enactment says, excluding literary and classical studies. Thus liberal was the scope of the Morrill bill as adopted by Congress.

Time enough has not yet passed to show in what manner the several States have accepted the grant of Congress, or how they will accomplish the prescribed end. We have before us as we write the legislation pertaining to these colleges in twenty-two Northern States, and catalogues or circulars from seventeen of the twenty-two, containing some announcements of the various courses of study. The diversity is very great. In several States, chiefly at the West, the name "State Agricultural College" is alone employed; several more have retained the Congressional phrase, "College of Agriculture and Mechanic Arts;" in Illinois there is an "Industrial University;" in Massachusetts, an "Institute of Technology;" in Connecticut and New Jersey there are "Scientific Schools;" and in several other States the State University covers up and includes the newly established college so that it appears only as a department more or less submerged in the comprehensive whole.

The character of these various institutions is as various as the nomenclature. Some are truly departments of a university where advanced instruction is given in different branches of natural science, while others are hardly worthy the name of academies or country high-schools.

But it is exceedingly difficult to make out from these announcements the real character of the instruction which is afforded. Every one is aware that it is very much easier to announce than it is to provide; so we must wait a little longer before it will be possible to ascertain which of the new institutions are really performing that which they have proposed. Probably after a short time has passed, each of the national colleges will begin to assume a shape corresponding with the wants of the locality in which it is placed. It cannot be expected that all these colleges will be successful. Lack of sufficient endowment, lack of qualified officers, lack of practical wisdom, will probably embarrass the progress of many of these enterprises; but the movement, as a whole, is one which can hardly fail to be of great benefit to the country. While the literary and classical colleges are left undisturbed to provide their training for certain classes of students, the scientific colleges are destined to attract many who would never be won over to classical discipline. —[*College Courant.*

ART. XVIII—DIRECT TELEGRAPH COMMUNICATION WITH INDIA.

The project of constructing a line of telegraph to India by the Red Sea is still, according to the last mail, engaging the attention of the Indian government. The great need of this means of communication has been demonstrated so often that it would be a waste of time to enter into long details on the subject, and we presume

that the dispatch just addressed to Sir Stafford Northcote by Sir John Lawrence is confined chiefly to the question whether or not Government aid can properly be extended to the enterprise. The present telegraph is uncertain, insecure, and dependent on the friendly offices of other powers; the Red Sea line would be under our own control, quick, safe and efficient. The advantage which such a telegraph would be to us in cases of emergency, such as we have seen before in India, can scarcely be exaggerated. The Indian Government has given assistance to every railroad or trainway yet made in India, and the promoters of the telegraph argue that they also are fully entitled to it, and that when all other Indian stock is guaranteed, the public will not readily take up shares in a company which does not enjoy this advantage. Notwithstanding this drawback, a large sum of money has already been subscribed by mercantile men towards the completion of the design, and it would be easy to complete the cable by this time next year. This is the present position of the undertaking; how far it has been advanced by the Viceroy's despatch we are not aware. The Indian Government is already pledged to one telegraph which proved a failure, but the new company would relieve it of all its liabilities on that account. A direct telegraph to India is of considerably more importance to us than one to America, and in some way or other, with Government help or without it, tae work ought to be accomplished without unnecessary delay. On the 12th of May, an influential deputation waited upon the Secretary of State for India, at the Indian Office, to impress upon him the importance of having a direct telegraphic communication with India. Mr. Crawford said a scheme had been put before the public for establishing a line between England and India by way of Prussia, Russia, across the Black Sea, through Georgia and Persia; but if any misunderstanding were to arise with any of the powers through whose territories the line was carried, it would, of course, be impossible to carry on the telegraphic communication with India, and the commercial interest thought it was neither right nor creditable that this country should be dependent on other powers. He expressed his opinion that it was the general wish that the Government should make the line themselves, if they thought it of sufficient use; but if not, they would like the Government to render them assistance, if it was determined by the commercial community to establish a direct line. Sir Stafford Northcote replied that it had not been shown that the present arrangements could not be improved, and he stated that the improvement of the arrangements had been under the consideration of Government; but in the present state of the finances, he could not hold out any promise that the Government either of India or England would give any support to the undertaking which the deputation advocated.—[*British Trade Journal.*

ART. XIX—DEPARTMENT OF COMMERCE.

1—THE CHINESE EMBASSY—ITS VALUE TO THE SOUTH.

Hon. Anson Burlingame, at the grand banquet given him and his associates of the Chinese Embassy, in New York, made a very interesting speech, which we subjoin.

A careful inspection of the geography of the Pacific and American coast, will show that the new trade about to be inaugurated between Asia and the United States, will cross the Isthmus of Central America. A comparison of the time and cost of conducting this trade will incline the student to the opinion that the true line for receiving and distributing that portion of this trade destined for the interior West, will be by way of the port of New Orleans and the Mississippi River. The basis of this view is to be found in the fact that Canton and Vera Cruz are in the same latitude, and that the route by way of the Sandwich Islands would be as favorable to the Isthmus crossing as to that by way of San Francisco. We do not, however, offer any other affirmations on this point, which must be determined by science and experience. No doubt the commerce between Asia and America will justify more than one line of steamers between two ports. But the particular view we would impress on St. Louis, Chicago and New Orleans, is the important fact that if ocean freights from China to the Isthmus are equal to those from China to San Francisco, the saving in the cost of water delivery by the Gulf and Mississippi River over that by railroad from San Francisco to the upper cities, will practically determine the trade by way of the port of New Orleans. For example: the freight of a ton all rail from San Francisco, 2,300 miles, to St. Louis, at four cents per ton per mile would be ninety dollars. The Isthmus crossing, the Gulf voyage and the river transportation by way of New Orleans to St. Louis might all be covered by a charge of twenty-five dollars. These are approximate estimates, intended to call the attention of the merchants and professors of commercial statistics to the consideration of the subject.

We publish the speech of Mr. Burlingame, and ask our Western friends to note the importance of having Western diplomatists to represent this new and important commercial demonstration:

Mr. President and Citizens of New York: Our first duty is to thank you for this cordial greeting—to say to you that it is not only appreciated by us, but that it will be appreciated by the distant people whom we represent; to thank you for this unanimous expression of good will on the part of the great city of New York; to thank you, that rising above all local and party considerations, you have given a broad and generous welcome to a movement made in the interests of all mankind. [Applause.] We are but the humble heralds of this movement. It originated beyond the boundaries of our own thoughts, and has taken dimensions beyond the reach of our most ardent hopes. That East which men have sought since the days of Alexander now itself seeks the West. [Renewed applause.] China, emerging from the mists of time, but yesterday suddenly entered your western gates, and confronts you by its representatives here to-night. What have you to say to her? She comes with no menace on her lips; she comes with the great doctrine of Confucius, uttered two thousand three hundred years ago, "Do not unto others what you would not have others do unto you." Will you not respond with the more positive doctrine of Christianity, "We will do unto others what we would have others do unto us?" [Great applause.] She comes with your international law. She tells you that she is willing to come into relations according to it; that she is willing to abide by its provisions; that she is willing to take its obligations for its privileges. She asks you to forget your ancient prejudices, to abandon your assumptions of superiority, to submit your questions with her as she proposes to submit her questions to you—to the arbitriment of reason. She wishes no war; she asks of you not to interfere in her internal affairs; she asks you not to send lecturers who are incompetent men; she asks that you will respect the neutrality of her waters and the integrity of her terri-

tory; she asks, in a word, to be left perfectly free to unfold herself precisely in that form of civilization of which she is the most capable to judge. She asks you to give to those treates which were made under the pressure of war a generous and Christian construction. Because you have done this, because the Western nations have reversed their old doctrine of force, she responds; and in proportion as you have done that, in proportion as you have expressed your good will, she has come forth to meet you. And I aver that there is no spot on this earth where there has been greater progress made within the past few years than in the Empire of China. She has extended her business and reformed her revenue system. She is changing her military and naval organizations, and is establishing a great school where modern science and the foreign languages are to be taught. She has done this after a great war lasting through thirteen years; a war out of which she comes with no national debt. You must remember how dense is her population and how difficult it is to introduce radical changes in such a country as that.

The introduction of your own steamers threw out of employment one hundred thousand junkmen, and the introduction of several hundred foreigners into her civil service embittered, of course, the ancient native employees. The establishment of a school was firmly resisted by a party led by one of the greatest men of the empire. Yet, in spite of all this, the present Government of China has advanced steadily along the path of progress, sustained, it is true, by the enlightened European and Western powers now at Pekin, and and guided largely by a modest and able man, Mr. Hart, the inspector general of customs, at the head of the foreign employees of China.

Yet notwithstanding this manifest progress, there are people who will tell you that China has made no progress—that her views are retrograde, and they tell you that it is the duty of the Western treaty powers to combine for the purpose of coercing China into reforms which they may desire and which she may not desire; to undertake to say that these people have no rights which we are bound to respect. In their coarse language they say, "Take her by the throat," using the tyrant's plea. They say they know better what China wants than China herself does. Not only do they desire to introduce new reforms, born of their own interests and their own caprice, but they tell you that the present dynasty must fall, and that the whole structure of Chinese civilization must be overthrown. I know that these views are abhorred by the Governments and the countries from which they come; but they are far away from their countries. They are active, brave and unscrupulous, and if they happen to be officials, it is in their power to complicate affairs, and to involve ultimately their distant countries in war. Now, it is against the malign spirit of this tyrannical element that this mission was sent forth to the Christian world. It was sent forth that China might have her difficulties stated. That I happen to be at the head of it is, perhaps, more an accident than any design. It is, perhaps, that I had been longer there than my colleagues; it was because I was about to leave; it was because, also—and probably more than all—because my humble name was associated with the establishment of the coöperative policy, which, coöperating with abler men than myself, was established not many years ago. It is to sustain that policy—which has received the warm approval of all the great treaty powers, and which is cherished by China—that we are sent forth; and it is in behalf of that generous policy, founded upon principles of eternal justice, that I would rally the strongest thing on this earth—the enlightened public opinion of the world. [Loud cheers.] I desire that the autonomy of China may be preserved; that her independence may be maintained; that she may have equality, and that she may dispense equal privileges to all the nations.

If the opposite school is to prevail—if you are to use coercion against that great people—then who is to exercise the coercion? Whose forces are you to use? Whose views are you to establish? You see the very attempt to carry out any such tyrannical policy would involve not only China, but would involve you in bloody wars with each other. There are men of that tyrannical school who say that China is not fit to sit at the council board of the nations, who call them barbarians, who attack them on all occasions with a bitter and unrelenting spirit. These things I utterly deny. I say, on the contrary, that that is a great and

noble people. It has all the elements of a splendid nationality. It has the most numerous people on the face of the globe; it is the most homogeneous people in the world; its language is spoken by more human beings than any other in the world, and it is written in the rock; it is a country where there is a greater unification of thought than any other country in the world; it is a country where the maxims of the great sages, coming down memorized, have permeated the whole people until their knowledge is rather an instinct than an aquirement. It is a people loyal while living, and whose last prayer when dying is to sleep in the sacred soil of their fathers. It is a land of scholars and of schools—a land of books, from the smallest pamphlet up to encyclopedias of five thousand volumes. It is a land, sir, as you have said, where the privileges are common; it is a land without caste, for they destroyed their feudal system two thousand one hundred years ago, and they built up their great structure of civilization on the great idea that the people are the source of power. [Applause.] That idea was uttered by Menchius two thousand three hundred years ago, and it was old when he uttered it. The power flows forth from that people into practical government through the coöperative system, and they make scholarship a test of merit. I say it is a great, a polite, a patient, a sober and an industrious people, and it is such a people as this that the bitter boor would exclude from the council hall of the nations. It is such a nation as this that the tyrannical element would put under its ban. They say that all these people—a third of the human race—must become the weak wards of the West; wards of nations not so populous as many of their provinces; wards of people who are younger than their newest village in Manchura.

I do not mean to say that the Chinese are perfect; far from it. They have their faults, their pride and their prejudices like other people. These are profound, and they must be overcome. They have their conceits like other people, and they must be done away; but they are not to be removed by talking to them with cannon, by telling them that they are feeble and week, and that they are barbarians. No; China has been cut off by her position from the rest of the world. She has been separated from it by limitless deserts and broad oceans. But now, when the views of men expand, we behold the very globe itself diminishing in size; now when science has dissipated the desert, and when it has narrowed the ocean, we find that China, seeing another civilization on every side, has her eyes wide open to the situation. She sees Russia on the north, Europe on the west and America on the east; she sees a cloud of sail on her coast; she sees mighty steamers coming from everywhere, bow on; she feels the spark from the electic telegraph falling hot upon her everywhere, and she rouses herself, not in anger, but for argument. She finds that by not being in a position to compete with other nations for so long a time that she has lost ground; she comprehends very well that she must come into relations with those civilizations which are pressing all around her, and feeling that, she does not wait, but comes out to you and extends to you her hand: [Applause.] She tells you she is ready to take upon her ancient civilization the graft of your civilization; that she is ready to take back her own inventions with all their developments; that she is willing to trade with you, to buy of you, to sell to you, to help you to strike off the shackles from trade. She invites your merchants, she invites your missionaries, and tells them to plant the shining cross on every hill and in every valley, for she is hospitable to fair argument. She offers you almost free trade to-day, holding the great staples of the earth, tea and silk; she charges you scarcely any tariff on the exports you send out to exchange for them. She is willing to meet the interior questions which are are arising now as to transit dues, and if you will only have patience with her and right reason on your side, she will settle these to your satisfaction.

The country is open; you may travel and trade where you like. What complaint have you to make of her? Show her, I say, fair play; exhibit that to her, and you will bless the toiling millions of the world. That trade which has in my own day in China risen from eighty-two millions to three hundred millions is but a tithe of the enormous trade that may take place with China in the future. Let her alone; give her her independence; let her develop herself in her own time and in her own way. She has no hostility to you. Let her do this, and she

will initiate a movement which will be felt in every workshop in the civilized world. She says now: "Send us your wheat, lumber, gold, silver, goods from everywhere; we will take as many of them as we can; we will give you back our tea, silk and free labor, which we have sent so largely out into the world, which is overflowing upon Siam, the British possessions, Singapore, Manilla, Peru, Cuba, Australia and California. What she asks is that you will be as kind to her people as she is to yours. She wishes simply that you will do justice. She is willing not only to exchange goods with you, but to exchange thoughts; she is willing to give you her intellectual civilization for your material civilization. Let her alone, and the caravans toward the north and Russia will swarm larger than they are now. Let her alone, and the great steamers of the "P." and "O.," and the Messagerie Imperiale may multiply their coming. Let her alone, and that great line which is the pride of New York, the Pacific Mail, may increase, or as many other lines as you choose to form, may increase their tonnage ten-fold, and they will still have to leave their freight uncarried, as at present, on the wharf at Hong-Kong and Yokohama. The imagination kindles at the future which may be, and will be, if you will be just and fair to China.

Citizens of New York, I must close. I have spoken at considerable length already. I thank you once again for this kind, generous and unanimous reception. So intertwined are the affairs of men, that whatever New York thinks unanimously, will be felt and thought in all the commercial capitals of the Christian world.

Mr. Burlingame was loudly cheered on the conclusion of his speech.

2—COMMERCE OF NEW YORK.

We have already given to our readers a summary of the imports of foreign dry goods at this port up to the close of the last fiscal year, which ended the 30th June. In that exhibit we promised to present a full statement showing all the imports landed here within the period named, as well as the total exports for the year, and we now proceed to redeem our pledge. The value of all the foreign goods, wares and merchandise landed here in the month of June amounted to a little over twenty million dollars, being a fraction below the corresponding figures of last year, and two-and-a-half millions below the total for June, 1866. The relative amounts for the month will be seen in the annexed table:

FOREIGN IMPORTS AT NEW YORK FOR THE MONTH OF JUNE.

	1866.	1867.	1868.
Entered for consumption	$10,682,723	$ 8,947,379	$ 8,786,471
Entered for warehousing	10,957,050	10,478,305	10,063,867
Free goods	1,002,330	1,043,040	783,149
Specie and bullion	94,549	499,184	838,111
Total entered at port	$22,736,652	$20,967,908	$20,471,598
Withdrawn from warehouse	8,967,431	6,910,287	6,658,943

As usual during that month the entries for warehousing have been in excess of the withdrawals, thus increasing the total in bond. The following table will show the total movement at this port since the beginning of the calendar year:

FOREIGN IMPORTS AT NEW YORK FOR THE SIX MONTHS FROM JANUARY 1ST.

	1866.	1867.	1868.
Entered for consumption	$88,759,762	$64,972,615	$58,924,841
Entered for warehousing	66,426,467	64,071,291	59,723,073
Free goods	7,036,616	5,975,691	4,954,049
Specie and bullion	1,180,186	1,556,696	4,038,900
Total entered at port	$163,403,031	$136,576,293	$127,640,863
Withdrawn from warehouse	49,993,854	59,487,891	51,922,215

This would make a gain of the stock in bond since January 1 of about eight million dollars. The increase in the receipts of foreign specie, while the outflow has been so large, is accounted for by the fact that considerable amounts of Spanish and other coin have been brought here for reshipment to Havana and other ports. Our readers must not forget that the great inflation in the import trade of the United States began in August, 1865, and that the totals for that year and the one following have no precedents in our history. This is the reason that the current figures seem small by comparison. We now bring forward the total for the whole fiscal year, beginning July 1 and ending June 30:

FOREIGN IMPORTS AT NEW YORK FOR THE FISCAL YEAR ENDING JUNE 30.

	1865-6.	1866-7.	1867-8.
Entered for consumption.....	$179,101,519	$140,013,482	$121,493,242
Entered for warehousing.....	112,356,494	117,877,762	106,408,721
Free goods.....	12,423,741	11,940,663	10,022,539
Specie and bullion.....	2,251,644	9,954,539	5,788,543
Total entered at port.....	306,133,398	279,786,446	243,713,045
Withdrawn from warehouse..	88,891,375	109,735,319	99,210,380

The year ending June 30, 1866, still heads the list, and the next has no superior, with that exception. We have usually, in this connection, divided the imports, separating the specie, and presenting the remainder in two great classes, to correct the popular idea that the whole of this trade was made up of foreign "silks and gew-gaws." Of the nearly two hundred and fifty millions imported during the twelve months, only about seventy-seven millions were composed of dry goods, including every fancy article usually classed with that trade. The remainder consisted of metals, liquors, wines, sugar, tea, coffee, spices, drugs, and all other articles of general merchandise. The following is our usual classification:

DESCRIPTION OF IMPORTS FOR THE YEAR ENDING JUNE 30.

	1865-6	1866-7	1867-8
Dry goods.....	$137,055,834	$103,407,278	$ 77,254,182
General merchandise.....	166,825,920	166,424,629	160,670,320
Specie and bullion.....	2,251,644	9,954,539	5,788,543
Total importations.....	$306,133,398	$279,786,446	$243,713,045

Tbis shows a very remarkable contrast. The imports of general merchandise are nearly equal in each of the last three years, while the receipts of foreign dry goods for the last year are little more than half as large as for the twelve months ending June 30, 1866. All of the figures above given represent only gold values. The imports are stated at their foreign cost in gold, freight and duty not paid. To show their market value, or their net cost in currency when ready for sale, the total must be more than doubled. We annex also a comparative statement of the cash duties received at this port for the last month, the last six months, and the year ending June 30:

REVENUE FROM CUSTOMS AT NEW YORK.

	1866.	1867.	1868.
In June.....	$ 9,559,898.38	$ 7,725,135.60	$ 7,678,200.69
Previous 5 months.....	57,988,291.40	51,629,553.30	47,772,547.96
Total in 6 months.....	$67,548,189.78	$59,354,688.90	$55,450,748.65
Total for fiscal year.....	132,625,518.65	119,886,260.72	110,182,050.09

We turn now to the expotrs, and remark that most of the following figures are reckoned in currency. The specie is given at its tale value, but shipments of produce and merchandise are generally cleared at their market price in paper money. The total for June shows a falling off from last year in the exports of everything but gold:

EXPORTS FROM NEW YORK TO FOREIGN PORTS IN THE MONTH OF JUNE.

	1866.	1867.	1868.
Domestic produce	$ 9,601,089	$14,346,769	$10,634,544
Foreign free goods	55,074	43,214	32,946
Foreign dutiable goods	606,255	713,137	641,409
Specie and bullion	15,890,956	6,724,272	11,823,628
Total exports	26,153,374	21,827,392	23,132,527
Total exports of specie	10,262,418	15,103,120	11,308,899

The total for the last six months falls behind the corresponding period in either of the previous two years:

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR SIX MONTHS FROM JAN. 1ST.

	1866.	1867.	1868.
Domestic produce	$104,254,136	$91,147,858	$79,101,312
Foreign free goods	458,794	287,238	404,249
Foreign dutiable goods	3,025,987	4,211,544	3,909,472
Specie and bullion	45,782.430	24,595,662	49,103,600
Total exports	153,521,347	120,242,302	132,518,634
Total exclusive specie	107,738,917	95,646,640	83,415,034

It will be seen that the outgoes of specie for the last six months amount to to nearly fifty millions; if the remaining total of exports is reduced to its net gold value, it will amount to but little more, so that almost half the shipments from New York for the last six months consist of coin and bullion. We bring forward the relative totals for the fiscal year, which make a more faborable showing:

EXPORTS FROM NEW YORK TO FOREIGN PORTS FOR THE FISCAL YEAR ENDING JUNE 30.

	1865-6.	1866-7.	1868.
Domestic produce	$210,352,823	$173,549,691	$166,163,863
Foreign free goods	762,633	534.927	553,660
Foreign dutiable goods	4,323,375	6,152,659	7,840,890
Specie and bullion	57,870,354	41,366,932	76,309,880
Total exports	273,309,185	221,604,209	250,868,305
Total exclusive	215,438,831	180,237,277	174,558,419

It is generally hoped that the shipments of breadstuffs and cotton the coming year will help up this decreasing trade, and show a more favorable return in our next annual statement. We are not so very sanguine of that result, but we do hope for some improvement. The carrying trade has been depressed for a long season, and a partial revival would be accepted by shipowners as a very great boon. No return of the old prosperity can be looked for until a different policy prevails in the councils of the nation.—[*N. Y. Journal of Commerce.*

3—ITALIAN MERIDIONAL.

The Times states that the Italian Credit Mobilier, together with the group of bankers connected with the French Credit Foncier, have concluded with this railway company (Societe pour les Chemins-de-fer Meridionaux) an arrangement for the issue of bonds similar to those issued by the Lombard Railway. The new bonds are, however, to bear eight per cent. interest, while the Lombard bonds carry but six per cent. It is expected they will be issued only in Italy and Paris.

4—MOVEMENTS OF PRODUCE.

We are now enabled to present our usual comparative statements of the movement of certain leading articles of produce at this port for the first six months of the year. The receipts show a considerable gain in breadstuffs, but a general decline in most articles of provisions. The arrivals of petroleum have apparently decreased, but this may be owing to the fact that larger packages have been employed in many cases to transport the crude article. We annex a tabular comparison:

RECEIPTS OF CERTAIN ARTICLES OF DOMESTIC PRODUCE AT NEW YORK DURING THE FIRST SIX MONTHS OF THE YEAR.

	1866.	1867.	1868.
Ashes—bbls	2,911	3,108	2,901
Breadstuffs—			
Wheat flour, bbls	1,018,089	674,208	1,032,126
Corn meal, bbls	166,013	153,344	193,873
Wheat, bush	457,895	653,605	3,770,473
Rye, bush	85,180	65,890	215,419
Oats, bush	1,893,773	876,662	2,732,064
Barley, bush	441,960	291,603	718,525
Peas, bush	258,336	235,111	179,844
Corn, bush	4,671,742	3,139,747	8,453,430
Cotton, bales	370,455	371,455	358,577
Naval Stores—			
Crude turp., bbls	21,928	3,308	4,656
Spirits turp., bbls	20,811	26,457	27,728
Rosin, bbls	193,324	149,414	216,186
Tar, bbls	35,662	11,140	19,860
Pitch, bbld	1,381	2,775	2,985
Provisions—			
Pork, pkgs	86,997	119,773	72,506
Beef, pkgs	45,407	25,507	33,773
Cut Meats, pkgs	90,876	74,947	58,265
Butter, pkgs	202,528	255,320	199,188
Cheese, pkgs	120,482	282,097	218,165
Lard, tcs. and bbls	78,835	93,507	67,951
Lard, kegs	5,299	7,091	8,449
Whisky, bbls	41,981	79,831	10,119
Petroleum, pkgs	452,337	451,923	292,965

The reports show a gain in wheat and flour, but a falling off in most other cereals. The shipments of butter, cheese and tallow are not up to the totals for last year, but in meat, provisions and lard, the totals show a general increase. A large amount of petroleum has been shipped, over twenty-two million gallons having cleared for foreign ports since the first of January.

EXPORTS FROM NEW YORK TO FOREIGN PORTS OF CERTAIN LEADING ARTICLES OF DOMESTIC PRODUCE FOR SIX MONTHS OF THE YEAR.

	1866.	1867.	1868.
Ashes—Pots, bbls	2,552	1,332	1,933
Do., Pearls, bbls	44	77	79
Beeswax, lbs	167,628	81,514	286,230
Breadstuffs—			
Wheat flour, bbls	482,532	220,911	461,137
Rye flour, bbls	2,912	7,042	4,517
Corn meal, bbls	71,002	74,802	104,856
Wheat, bush	138,552	60,999	2,911,483
Rye, bush	187,189	135,561	153,093
Oats, bush	770,756	101,250	39,368
Barley, bush	4.....	860,226	.....
Peas, bush	106,162	303,574	50,118
Corn, bush	4,260,732	4,428,402	3,929,628
Candles, bxs	37,745	35,098	43,909
Coal, tons	18,074	39,595	28,676
Cotton, bales	262,170	297,284	204,947
Hay, bales	25,283	13,747	20,442
Hops, bales	756	1,329	356

	1866.	1867.	1868.
NAVAL STORES—			
Crude turp., bbls	11,295	116	200
Spirits turp., bbls	5,154	11,430	6,801
Rosin, bbls	134,312	160,088	186,591
Tar, bbls	20,892	3,032	7,004
Pitch, bbls	1,137	2,694	1,957
OILS—whale, galls	44,572	203,528	155,676
Do. sperm, galls	72,265	322,349	189,955
Do. lard, galls	10,147	84,938	112,237
Do. linseed, galls	5,170	3,414	26,185
PROVISIONS—			
Pork, bbls	51,743	50,772	58,837
Beef, bbls	17,816	9,643	13,154
Do. tcs	22,763	22,569	38,979
Cut meats, lbs	25,489,925	18,925,230	22,774,598
Butter, lbs	1,037,409	3,312,433	542,341
Cheese, lbs	6,558,599	15,667,840	12,758,141
Lard, lbs	14,766,130	22,007,913	24,455,112
RICE, tcs	52	85	220
Do. bbls	6,385	5,250	9,430
TALLOW, lbs	7,924,946	10,078,142	7,215,552
TOBACCO, crude, pks	52,237	64,870	37,885
Do. manf., lbs	1,946,647	3,409,917	3,675,202
WHALEBONE, lbs	340,721	336,678	675,047
PETROLEUM, galls	13,422,794	14,750,682	22,394,289

There is little prospect of a large grain movement this year, and the shippers have little to encourage them in any direction.—[*N. Y. Journal of Commerce.*

5—COTTON IN QUEENSLAND.

Cotton-growing is rapidly extending in every part of the colony. Somewhere about 3000 acres were under crop this year, and a much larger area will be planted next season. A large number of the smaller settlers intend growing only as much of the more usual descriptions of farm produce as they require for home consumption, and mean to devote as much land as possible to the cultivation of cotton and sugar-cane. This fact, so far as the profit of the thing is concerned, speaks for itself. Last season was not a very favorable one for cotton; but notwithstanding this drawback, the yield has been pretty good—much better, indeed, than was expected. Owing to the mildness of our winter the seed is allowed ample time for ripening, and its quality is being gradually improved. In course of time we may reasonably expect to become large producers, especially as no great amount of peculiar knowledge is required in its cultivation, and there is plenty of good seed to be had in the colony free of cost. At the present time 300 pounds of clean cotton per acre is reckoned an average crop, and this quantity pays the planter much better than any description of common farm produce. —[*British Trade Journal.*

6—BILLS PRESENTED TO THE CORPS LEGISLATIF.

A bill has been presented for permitting the Suez Canal Company to attach a lottery to the unplaced portions of the debentures of the 100,000,000 franc loan it was some time ago authorized to raise. Another bill accords the French Trans-Atlantic Steam Navigation Company a subvention of 750,000 francs a year for establishing lines in the Pacific and to Colon-Aspinwall; also, a loan of 4,000,000 francs for building new steamers. The same bill guarantees the company on all the capital of its old and new lines 5 per cent.—only, however, to the amount of 2,000,000 francs. A third bill gives the Messageries Imperiales a subvention of £3,405,450 for extending its lines in Asiatic waters.

7—RESOURCES OF MEXICO.

The recent publication of a consular report relating to the general resources of Mexico has drawn our attention to the possibilities of that truly ill-fated country. By nature it has been endowed with every possible advantage. Within the same limits we believe there is no such instance of the truth of this in respect of any other part of the globe. The very names of the three divisions of the country, which were introduced by the natives, indicated that the climate was in one part intensely hot, as that all the fruits of the Indies could be grown there; in a second, so temperate that corn could be cultivated; and a third enjoyed all the peculiar advantages of a northern climate. It is abundantly rich in minerals, in what we may call surface chemicals, such as soda and salt, (the report above referred to quotes an estimate that the marsh lands are now capable of producing soda valued at £6,000,000,) and it has agricultural advantages of a high order. Cotton is easily grown, and were adequate measures taken to increase the cultivation, Mexican cotton would have the power of influencing the European markets. But all these advantages have been in great measure negatived by the curse of change which for centuries has abided upon that land. Whether conqueror or native, since the Spanish lost their Mexican colony, has been supreme the tenure of power has been short. Throughout the country there has been for years no security, and what men are not sure to keep they do not care to strive for.

The hope of the commercial world is not that the United States may enforce a strong republican government upon the Mexicans, but the people themselves may be so fully convinced that some change must be effected as to make obedience to authority more than ever of paramount importance in their sight. In spite of all they and their enemies and friends have contributed towards extinguishing the commerce of the country, it has grown, and we dare say, is still growing. Unfortunately, the last year or two has not been posted up as completely as was until lately becoming the custom, but a glance at even our trade with Mexico alone will convey an idea of the commercial importance of a recognized and sufficient government. We will take a period of ten years, the last complete:

	Imports from Mexico.	Exports to Mexico.
1854	£220,605	£463,884
1864	3,129,334	2,232,525

The growth experienced in those ten years is very remarkable. It is hardly possible for a similar increase to take place in the decade ending 1874, but we look for some increase, in spite of recent political disturbances. The balance of trade is very largely in our favor, and hence the shipments of specie which usually are made by the West India mail steamer. Those who have studied Mexican capabilities are convinced that this deficit of production is solely caused by the political disturbances to which the country is subject. A government which could inspire confidence and retain it, would probably see not its least important reward in the exports equalling the imports.

8—TARIFF FOR BONDED WAREHOUSES.

It is a well known fact that New Orleans has for many years had the reputation of being a port where the most exorbitant rates were charged for storage, labor, drayage, etc., and this reputation has doubtless militated very considerably against her, causing merchandise, which would have otherwise found a market here, to be diverted to other cities.

It affords us pleasure to state that this evil has been remedied at last, and that the Chamber of Commerce has recently established a tariff which must meet the approbation of all.

The rates now fixed upon are in some cases 30 per cent. and in others 50 per cent. below those heretofore in vogue, or at least those which custom had sanctioned since the war.—[*Picayune.*

9—EAST INDIA IRRIGATION AND CANAL COMPANY.

At a meeting, the following resolution was adopted: "That the loan of £378,000 offered by the Secretary of State is respectfully declined upon the onerous terms stipulated for; but the board are authorized to conclude with the Secretary of State a sale of the undertaking in Orissa, upon the terms and for the debentures proposed by Government in their dispatch dated at Simla, July 1867, such debentures being dated 1st January last, or—for sums in cash equivalent; or, for India four per cent. stock, such being equal in amount to £125 for every £100, would be comprised in the 5 per cent. debentures." The chairman said that the returns from India were very encouraging. The issue of further capital for the completion of the works in the Orissa district, and for the construction of irrigation canals in the Behar district, has been announced. Shares to the extent of £1,000,000 are offered in each undertaking; they are for £10 each, bearing 5 per cent. interest from the 1st July next. The deposit is £1 per share, and all calls may be paid in advance. The "Orissa Undertaking" consisting of head works across four rivers, with five subsidiary navigable canals, connecting various towns with Calcutta, and irrigating (as planned) about seven hundred thousand acres, are progressing; and the demand for water is already stated to be encouraging. The "Behar Undertaking" is to supply the province of that name, and the plans for the works have already been approved by the Indian Government. They will, it is estimated, when completed, be even more profitable than the "Orissa" canal. In each case the Government becomes the customers of the company (as far as irrigation is concerned), and re-sell the water to the inhabitants. This is said to insure returns. The report refers with satisfaction to the demand for canal water. The accounts show a cash balance of £108,968. There has been about seventy thousand pounds paid as interest out of capital.

10—AUSTRALIAN POSTAL ROUTE THROUGH BRITISH NORTH AMERICA.

With reference to the Australian project to abandon the Panama route for that by San Francisco as soon as the Atlantic and Pacific Railway shall have been completed, on the ground that the distance from Wellington (New Zealand) to San Francisco is 700 miles shorter than to Panama, with the great advantage of having Tahiti in the direct course, and available for forming a commodious coaling station, Mr. A. G. Dallas, of the Reform Club, thinks it worthy of consideration whether Victoria (Vancouver's Island) might not be substituted for San Francisco, so that, by a railway from Canada through British Columbia, England would be placed in direct postal communication, through her own territory, not only with Japan, China and the Eastern Archipelago, but with New Zealand and our Australian colonies; securing the unlimited supply of coal obtainable in Vancouver Island, together with its capacious harbors and boundless forests, adapted for shipbuilding, which give it a preponderating advantage over both San Francisco and Panama; whilst a liberal grant of land, now lying useless, would, as Mr. Dallas believes, induce capitalists to come forward, and complete a scheme which would not only unite England with her distant possessions, but open up a large continent for settlement, and develope its mineral and agricultural wealth, its coal fields, fisheries and forests.—[*British Trade Journal.*

11—FRENCH RAILWAYS.

The obligations of the six great French railway companies have been steadily rising in value of late. These obligations are redeemable at 500 francs each, at dates still remote; and as the conditions attached to them have hitherto been scrupulously fulfilled, there really seems a probability of these securities gradually increasing in value, even before their actual repayment at par. This state of things, it must be acknowledged, speaks well for French railway credit.

12—MADRAS.

No addition has been made to the mileage last half year. The gross receipts had been £229,983 against £224,577, and the net receipts to £130,217 against £119,875 in the corresponding half year. The want of a better terminus on the western coast had been felt. Attention had accordingly been directed to Cochin, which, from its commerce and harbor, offered advantages. At the request of Government, the company's engineers were now engaged in surveying a line, and it was hoped that a good and not expensive line might be found. The length would be about sixty miles. The junction of the Great Southern Railway with the southwest line at Erode was effected in February. The Napier bridge over the Chittravutty river had been completed, and it was hoped to open a further thirty-two miles to Tadputry in June. Capital expenditure £8,812,167.—[*Morgans' British Trade Journal.*

13—EASTERN BENGAL.

The half year's traffic shows an increase of £13,400, and during the first quarter of the present year of £13,537. The report states that the gross receipts for the half year amounted to £81,949, the working expenses to £47,365, and the net receipts to £34,594, against £68,548 receipts in the some half of 1866, £38,099 working expenses, and £30,449 net receipts. With regard to the Goalumdo Extension line, the first cylinder of the Goraie bridge had been sunk fifty-six feet into the bed of the river to the full depth required, and a satisfactory foundation had been reached. The permanent way materials and bridge work for the extension line required to be sent from this country had been already shipped, the cost being £264,183. The capital account to the 31st of December showed that £2,280,178 had been expended.—[*Ib.*

14—GREAT INDIAN PENINSULAR.

The gross revenue for the half year amounted, on 852 miles, to £509,756, against £440,205 on 777 miles for the corresponding half of 1866, showing an increase of £69,551. The expenditures amounted to £381,618, or 74.86 per cent., against £337,727, or 76.72 per cent. The net revenue for the half year amounted to 128,138 pounds, which was paid to Government in reduction of guaranteed interest. The line under construction in December was 421 miles, of which 214 was opened in February. An inquiry has been instituted as to the cause of the failure of some of the works, and a reserve is to be established for extraordinary repairs. Capital receipts, 17,937,730 pounds; balance in hand, 862,160 pounds. The debentures are to be converted into stock.—[*Ib.*

15—GREAT SOUTHERN OF INDIA.

On the first of January, the junction with the Madras line at Erode was effected, making one hundred and sixty-eight miles opened. The canal between Vadarneum and Nagatapatam has been completed. The surveys for a line south from Trichinopoly or Caroor to Tuticorin have been undertaken at the suggestion of Government, who guarantee the cost. The fire reserve fund, 21,507rs, has been debited with 6000rs for the fire in March last. The traffic during 1867 was 58,191 pounds, showing an increase of 12,609 pounds, and the net earnings 30,508 pounds, showing an increase of 5,814 pounds. Capital expended, 1,166,304 pounds.—[*Ib.*

ART. XX—DEPARTMENT OF AGRICULTURE.

[From the Cincinnati Gazette.]

THE COMING HARVEST AND ITS INFLUENCE—CROPS OF OHIO.

We are about to have two events, which must have much influence on the condition of the country and the feelings of the people. These are good crops and a restored Union. For several years we have been without either, but politicians have, as they always do, perverted the relative influence of these facts, either for or against the respective parties of the day. The greatest importance has been attached to the representation in Congress of the late rebel States. We are of a different opinion. We don't think any more bales of cotton or bushels of corn will be raised, because Georgia, Alabama, etc., are in or out of Congress. Nor do we think all the representatives of those ten rebel States will ever have half the influence in the country of one good crop. The deficiencies of the crops have made trade languid and labor dear, and, as a consequence, merchants complain of dull trade, and manufacturers that labor is too high to be profitable. In such a state of things, bankers are the only people who make large profits. We see many of the National Banks dividing fifteen per cent. profits, and insurance companies, which are kin to banks, making great dividends. Much of these dividends is made by the loan of money, on which merchants and manufacturers have made no profits. Politicians take advantage of this, and persuade the people that this is all because the Union is not restored, and to crown the consistency of their conduct, the Democratic party votes against a return of the rebel States! Disunion is consistent with itself, but inconsistent with all its hollow professions of patriotism.

* * * * * *

Now, however, the prospect is far more favorable than that. Louisiana promises to raise 100,000 hogsheads of the best sugar in the world, which of itself will be worth twelve millions of dollars. The cotton crop promises a large harvest, and it would not be surprising to find the cotton crop of the South this year reach three millions of bales—worth three hundred millions of dollars. In fine, unless all signs fail, this will be a most prosperous year for the South.

Let us turn to the food prospects—for food is not merely necessary to the subsistence of the producers, but is necessary, like the products of the South, to exchange for the products we do not raise; and, above all, is necessary to give full force and profits to the manufacturing industry of the country. Merchants complain of dullness, and manufacturers are afraid to enlarge their operations, whilst the great food crops are comparatively deficient; and such must be the state of affairs until we have full harvests. This year, we have promise of a most abundant harvest. It is true, there is time enough for a drouth and much mischief, but the course of the seasons do not look that way. On the contrary, much of the wheat harvest is gathered, and the corn never looked better. It was planted late, but has come up in beautiful order. The promise is for full crops.

Let us now look at the effects of good crops. First, we note that we have not had a *full* harvest since 1860. The harvest of that year was very great, and we have had none since to equal it. We take from the reports of the Commissioner of Statistics the following aggregates of the crops of Ohio, including wheat, corn, barley, oats and potatoes, for each year since 1859:

	Bushels.
1860	153,103,341
1861	121,965,343
1862	111,878,669
1863	93,517,266
1864	94,791,534
1865	107,414,278
1866	118,061,911

It appears that the aggregate grain crops decreased from 1860 to 1864; that they began then to increase, and have steadily increased since; so that the crop of 1868, if the seasons are not unusually bad, will probably be the largest ever raised in the State.

We see that the crop of 1863 was only three-fifths of that of 1860, and the crop of 1866 fell thirty-five millions of bushels short of that of 1860. The crop of 1867 was better, but by no means up to that of 1860. Now, it is useless fo cite an increase of crops in the new States, for that is the result of the increased population of the country, which is making new farms in the West, and not of an increase of the proportion ol crops. The annual increase of laborers is at least 5 per cent. per annum; and, of course, that has been in the aggregate a large increase in the *average;* but if we do not have a fair proportion between the harvest and the seed, the crops fall short. This has been the case for five or six years, and it is in vain to look into the reports of the Agricultural Department and of newspapers in order to supply this deficiency. As a general principle, the seasons move in cycles of years, at least in one hemisphere. Hence the crops are often not unlike Pharaoh's seven good years and seven bad years, though not carried to such extremes. Compare the aggregate of the last three years, in the above table, with the first three years. The first three years produced *three hundred and eighty-seven millions* of bushels, while the last three produced only *three hundred and twenty millions*, although the State had many more people.

Supposing, as we do from all attainable information, that the crops of 1868 are proportionably as good as those of 1860, and taking the census statistics as a basis of calculation, and we have the following results of the crops of the *whole country* for 1868, viz:

	1860. bushels.	1868. bushels.
Indian corn	838,772,017	1,050,000,000
Wheat	172,034,301	220,000,000
Rye	21,068,000	25,000,000
Barley	15,800,000	20,000,000
Oats	165,000,000	210,000,000
Potatoes	110,000,000	150,000,000
Buckwheat	17,000,000	150,000,000
Aggregate	1,329,694,000	1,695,000,000

If this estimate be correct, (and all the facts point to such a result,) we shall raise *three hundred and sixty-six million of bushels* of breadstuffs, more than in the year 1860, the year before the war, and the most favorable year we have ever had. Taken together, this will we worth three hundred and fifty millions of dollars more than any one year. We have said nothing of the crops of tobacco, of hay, of flax, of peas and beans, (already a large crop,) or of the products of the dairy, which will greatly swell the profits of the producing regions.

In this brief picture of the agricultural products of the country, we see the true source of its prosperity, and the ready means of meeting all the obligations of the Government. It is vain to attempt the solution of financial problems by the mere inventions and vagaries of the brain. Debts are not paid in that manner. We do not want money; we want the means to get money. We do not want commerce; we have more than commerce enough. We import more foreign goods than we have ever done, not just this summer, but in the last two or three years. We pay for those goods in the gold which we ought to keep at home, and thus help to depreciate the bonds of the Government which the European gentry are buying up, when American Democrats are trying to depreciate them by threatening a new issue of paper money, and trying to reduce the tariff which is the sheet anchor of our credit. We must build our credit, our trade and our manufactures on the products of the soil, got out by honest labor; and we must rely on the God of Providence to favor and assist our honest endeavors. He has done it. He smiles upon a land which he has filled with peace and plenty, health and prosperity.

Never has this country been more prosperous than it is to-day. The Union is restored. The crops are good. The commerce of the country is large enough. The great manufacturing interest, on which so much of the development of wealth and the stability of the Government depends, will have a large part of its recent burdens removed; and when the harvests are all in, the merchants will find their fall trade spring up with increased activity and profit. Such is the actual state of the country—and what is there to disturb it?

Morrow, July 6, 1868. E. D. M.

EDITORIAL.

THE LABOR QUESTION.

We are not conspiring for the restoration of slavery, even were it possible. It is impossible for two reasons. 1. The colored race having enjoyed liberty for four years, could not be reduced to servitude. 2. The system of purchasing daily labor as it is wanted is more profitable to the community than that of buying and insuring title for the life of the laborer. Still there were moral and social reasons why slavery as an institution was productive of order and content. It has been overthrown by the disposition of other nations to interfere and by the inability of our own people to protect it. So it has been overthrown never again to be established, unless the same powerful philanthropists should deem it best for the colored race and themselves for us once more to become their guardians. But at the same time that England was ringing with the denunciation of our own labor system, it is well to remind the people of the United States of the system of bondage which prevailed in that land of historical freedom. This has been done with great sense by a correspondent of the Cincinnati Gazette, writing from an agricultural county of England. As a summary, it will be found that the laborers are far below the standard of virtue or intelligence established in the Southern States, or indeed, among any other civilized people. We expect no justice, because we are in no condition to compel justice to be done us; but the world might look at the service rendered to humanity by the system of slavery now terminated among us. Cannibals, who had been roaming the torrid wilds of Africa for countless generations, upon whom neither Rome nor its religion, nor Portugal, or England and their trade had made any moral impression, were purchased by England, Spain, and other nations and sent to till the Southern soil. They were to produce those tropical and semi-tropical crops which the civilized world required for its use. The inhabitants of the Southern States were colonists of these European nations and of the same race, faith and customs with them. They have accepted this duty as imposed upon them by Christendom. They have taught these hopeless savages to wear the clothes, speak the language, profess the faith and pursue the industries of Christendom. Nay, more, these people who were savages when imported are now entrusted with political power and are actually placed in control of their instructors. When we return to the state of the labor question in England as explained by the paper which we have published, and compare the social status of the laborer there with his condition and character here, we are convinced in our conscience that no people have ever rendered so high a service at so dear a cost to themselves as the Southern people have done in teaching the bondsmen first sold to them by civilization and then confiscated, with so much of blood, violence and obloquy. We do not, of course, complain of this injustice. The race which inhabits the Southern States is brave, energetic and of great resource. Oppressed or conquered on one issue, they will reorganize their industries and redeem themselves. They will build up a labor system upon existing exigencies. They will modify their plans to comply with the usages of modern progress. We have no doubt of their entire success.

ST. LOUIS LEAD AND OIL COMPANY.—Nothing marks the tendency of manufacturers to emigrate to where the raw material and market may be best combined and the labor most cheaply supported, so much as the various new manufacturing interests now springing up in the West. We advertise the St. Louis Lead and Oil Company as an enterprise which combines advantages no where else to be assimilated so favorably. The manufacture of vegetable oils is of much interest to the Southern States, because those crops which require least labor are now most profitable The castor bean is easily grown in our climate, and are worth from one and a half to five dollars per bushel. Pamphlets giving the mode of culture may be obtained from the Company. For genuine white lead the Missouri market of course offers the best and cheapest materials. Baryta and other imitation articles, we suppose, can be had on as favorable terms as elsewhere. With these elements of production and of cheap labor, we cannot see why the South cannot obtain its supply of white lead, red lead, zinc white, etc., on better terms than in any eastern market, domestic or imported.

Soulé's Commercial College.—We take pleasure in adding an advertisement of this valuable institution to those of some of the leading houses of New Orleans. At this moment when the South is struggling to preserve her social and political station, there is no agency which will do more in so short a time as to improve her commercial intercourse with other countries. A large class of Southern youth are fitted by enterprise and integrity for the successful pursuit of this profession. They require but tuition to fit them for the practical departments of this noble profession. For this the college of Col. Soulé is admirably adapted. A merchant should not be educated merely as an accountant. There are new truths to be taught in commerce. There are new laws by which trade and finance are governed. Railroads and steamships are daily developing new doctrines of transportation, of purchase and of sale. The commercial future of the South is in the South Seas. Our merchants may be our lawgivers. They should understand the commercial laws and languages of other countries. They should know the geography, the productions and the political history of those nations with whom they deal. The course of the Soulé commercial college provides for this. A young man may be taught there either the mere routine of an accountant, which qualifies him at once to open, keep and close a set of books, to write a fair hand and transact all the ordinary business of a bank or a store, or he may remain longer and qualify himself for all the duties of a perfect merchant. Such are the men of which the South is emphatically in need, and we know no institution where the qualification can be more rapidly and effectually imparted than at Col. Soulé's college.

American Wine Company.—Our esteemed confrere writes us from St. Louis that he has visited the extensive *caveaux* of this celebrated company, and received a personal introduction to its contents, until the Imperial Missouri Cabinet, Sparkling Catawba and Isabella, with all the various white wines, red wines, champagne and catawba brandies seem, in the words of Junius, to "dance before his eyes in all the mazes of metaphorical confusion." So he very properly includes them all in one general and cordial commendation. We like this transfer of the upper Rhine to the hills of Missouri. While the great West is teeming with grain, and other food for man, while she is removing the mechanic, his family and his implements to the food and material supply, it is essentially wise to develop also all the elements of social enjoyment. We consider nothing more attractive and redolent of proper popular pleasure than a moderate use of an animating beverage, and wish success to the Wine Company's sparkling assortment, which they sell so cheap and dispense so hospitably.

Our Planters should note the improved machinery offered by the Albany Cotton Gin Manufacturing Company. The season is now at hand when it is important to have the most effective machinery for the purpose of saving the staple. Now that the planter has to hire his labor, it is important to render it as productive as possible by machinery. Indeed, the more we can throw on climate, soil and machinery, the less will we be dependent on purchased labor, and the greater will be the profits of cotton culture. We have no reservation in saying that the Albany Cotton Gin Company possesses advantages of capital and machinery which will enable it to furnish cotton gins and other machinery on as favorable terms and of as modern improvement as any whatever, and we will cheerfully give any information which will enable planters to order anything they may wish in that line.

Jewelry.—We are aware the present is no time for large expenditure in jewelry. Still there is no time when the gifts of affection or the solid ornaments of a household are not necessary evidences of civilization, and especially at no time is the value of correct time of more consequence than in hard times. We therefore commend the establishment of Mr. Bier as not only affording an elegant assortment of jewelry, watches and useful utensils for the table, but we commend him as a merchant who charges a reasonable price for his wares, and delivers the genuine article that he sells you. His stock of eye-glasses is very superior and his advice in adapting them to the sight very valuable.

DE BOW'S

SOUTHERN AND WESTERN MONTHLY BUSINESS DIRECTORY.

INDEX.

Bankers. PAGE.
Conner & Wilson 16
Manning & DeForest 11

Brokers.
Lancaster & Co 15
Townsend & Co 15

Commission Merchants, Factors.
Gaillard & Minott 6
C. J. Laveque 8
J. L. Taylor 8
James Connoly & Co 18
S. Root 11

Clothing, Furnishing Goods, etc.
Taylor, McElroy & Co 8
S. N. Moody 17

Education—Literature.
N. O. Young Ladies' Institute 12
Virginia Military Institute 31
"The New Eclectic," 4
Elements of Euclid 10
Krull & Dickey 31
Soulé's Commercial College 25

Grocers.
E. J. Hart & Co 20
R. S. McKeen & Co 5

Hardware, Cutlery, etc.
Slark, Stauffer & Co 14
Orgill, Bros. & Co 8
H. & J. Hopkins 15
Choate & Co 16
W. P. Hood 10
Wm. A. Robinson & Co 11
Chichester & Co 11
Brown & Lang 11
A. G. Rogers & Co 16

Hotels.
Charleston Hotel 4
Mills House 6
Gilmor House 11
Exchange Hotel 31
Laclede Hotel 21

Insurance. PAGE.
Ætna Insurance Co 3
St. Louis Mutual Life Co 15
State Co. of Nashville 17
Globe Mutual Life Co 11
The Nashville Life Co 12
Louisiana Equitable Life Co 28

Jewelry, Watches, etc.
S. Bier 25
Boogher Bros 25

Manufactures.
Rridesburg Co ..... 1 and 2
National Leg and Arm Co 6
Grover & Baker S. M. Co 6
Union Washing Machine Co 7
Pecora White Lead Co 17
Portable Pipe Organ Co 19
Brooklyn White Lead Co 11
Rhodes Standard Manures 28
Albany Cotton Gin Mannf'g Co 26
Iron Cotton Ties 22
Cook's Evaporator, etc ..... cover
Wm. Wilson & Son 18
St. Louis Lead and Oil Co 23
Missouri Mills 23

Patent Medicines.
Allcock's Porous Plaster 9
Brandreth's 27
McLane's 33
Rosadalis ..... 29 and 30

Miscellaneous.
Patent Carriage Break 5
Stimson's Scientific Pen 4
Photographic Art Gallery 16
Hair Dressing 18
Lands for sale 13
Houston Navigation Co 32
Machine Bale Rope 11
Babbitt's Lion Coffee ..... cover
Boots, John Slater 5
Northern Line Packets 25
Pacific Guano Co ..... cover
Metropolitan Gift Co 24
American Wine Co 21

TO ADVERTISERS.—We have respectfully to remind merchants that the De Bow's Southern and Western Directory is a cheap and effective medium for coming before the public. It publishes 30,000 copies annually, which go chiefly to Southern and Western readers. It thus differs from other directories, because it repeats the advertisement twelve times a year, and thus goes to a large extent into many hands. The price is reasonable, being $100 per annum, per page, with a proportional reduction of price as to space. One-fourth of this price is payable in advance. We are printing and publishing the Review in New Orleans, and solicit the patronage of the merchants to the extent of their interest.